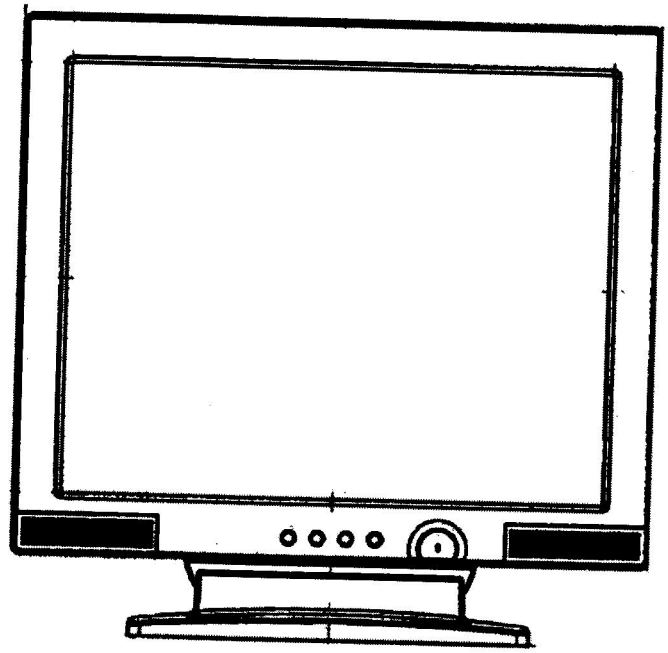
Service Manual



Model: Belinea 101735

Art. No. 111749

Belinea 101735(111749) Service Manual

TABLE OF CONTENTS

1. PRECAUTION AND NOTICES

1.1. SAFETY PRECAUTIONS

This monitor is manufactured and tested on a ground principle that a user's safety comes first. However, improper use or installation may cause damage to the monitor as well as to the user. Carefully go over the following WARNINGS before installing and keep this guide handy.

WARNINGS:

- This monitor should be operated only at the correct power sources indicated on the label on the rear end of the monitor. If you're unsure of the power supply in your residence, consult your local dealer or power company.
- Use only the special power adapter that comes with this monitor for power input.
- Do not try to repair the monitor your self as it contains no user-serviceable parts. This monitor should only be repaired by a qualified technician.
- Do not remove the monitor cabinet. There is high-voltage parts inside that may cause electric shock to human bodies, even when the power cord is unplugged.
- Stop using the monitor if the cabinet is damaged. Have it checked by a service technacian.
- Put your monitor only in a clean, dry environment. If it gets wet, unplug the power cable immediately and consult your service technician.
- Always unplug the monitor before cleaning it. Clean the cabinet with a clean, dry cloth. Apply non-ammonia based cleaner onto the cloth, not directly onto the glass screen.
- Keep the monitor away from magnetic objects, motors, TV sets, and transformer.
- Do not place heavy objects on the monitor or power cord.

1.2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety visual inspections and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltages, wattage, etc. Before replacing any of these components read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

1.3. SERVICE NOTES

1. When replacing parts or circuit boards, clamp the lead wires around terminals before soldering.
2. When replacing a high wattage resistor (more than 1W of metal oxide film resistor) in circuit board, keep the resistor about 5mm away from circuit board.
3. Keep wires away from high voltage, high temperature components and sharp edges.
4. Keep wires in their original position so as to reduce interference.
5. Usage of this product please refer to also user's manual.

2. SERVICE TOOL & EQUIPMENT REQUIRED

1. SIGNAL GEN.
2. MULTIMETER
3. OSCILLOSCOPE
4. SCREW DRIVER
5. IRON
6. ABSORBER
7. SOLDER
8. DUMMY LOAD (5ohm/200W)

3. SPECIFICATIONS

3.1. PRODUCT SPECIFICATIONS

LCD Panel	17.0" TFT
Power Management	Energy Star compliant VESA DPMS compatible < 2W
Displayable Resolution	SXGA 1280× 1024 (max.)
Pixel Dimension	0.264(H)× 0.264(V)mm
LCD Display Color	16.2M ColorS. (6bit)
Viewing Angle	CR≧10 Horizontal: 140 deg Vertical: 130 deg
Contrast Ratio Brightness	500 : 1 (typ.) / 450 : 1(min.) 300 cd/ m^2 (typ.) 250 cd/m^2 (min.)
Response Time	Tr: 2 ms Tf: 6ms (typ.) Tr: 4 ms Tf: 10 ms (max.)
Active Display Area	337.9mm(H)× 270.3mm(V)
Temperature	Operating: 0°C ~ +40°C Storage: -20°C ~ +60°C
Compliance	UL, CUL, TÜV, CE, FCC, VCCI, BSMI,CCC, Energy Star.
Power	Input Voltage: 100~240 ± 10% Vac Consumption: 35 Watts (Max.)
Audio	1Watt(L) + 1Watt(R)

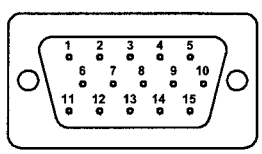
3.2. FACTORY SUPPORTING MODES

Primary Preset: VESA 1280 x 1024 @ 60Hz

Lookup timing table:
1.VGA 640× 350 (70Hz) mode
2. VGA 720× 400 (70Hz) mode
3.VGA 640× 480 (60Hz) mode
4.VESA 640× 480 (75Hz) mode
5.VESA 800× 600 (56Hz) mode
6.VESA 800× 600 (60Hz) mode
7.VESA 800× 600 (75Hz) mode
8.VESA 1024× 768 (60Hz) mode
9.VESA 1024× 768 (75Hz) mode
10.VESA 1280× 1024 (60Hz) mode
11.VESA 1280× 1024 (75Hz) mode
12.MAC 640× 480 (67Hz) mode
13.MAC 832× 624 (74.5Hz) mode
14.MAC 1152× 870 (75Hz) mode
15.MAC 1152× 900 (76Hz) mode

3.3. D-SUB CONNECTOR

D-SUB 15 PIN CONNECTOR



1.R	**6.GND**	**11.NC**
2.G	**7.GND**	**12.SDA**
3.B	**8.GND**	**13.H.SYNC**
4.NC	**9. +5V**	**14.V.SYNC**
5.GND	**10.GND**	**15.SCL**

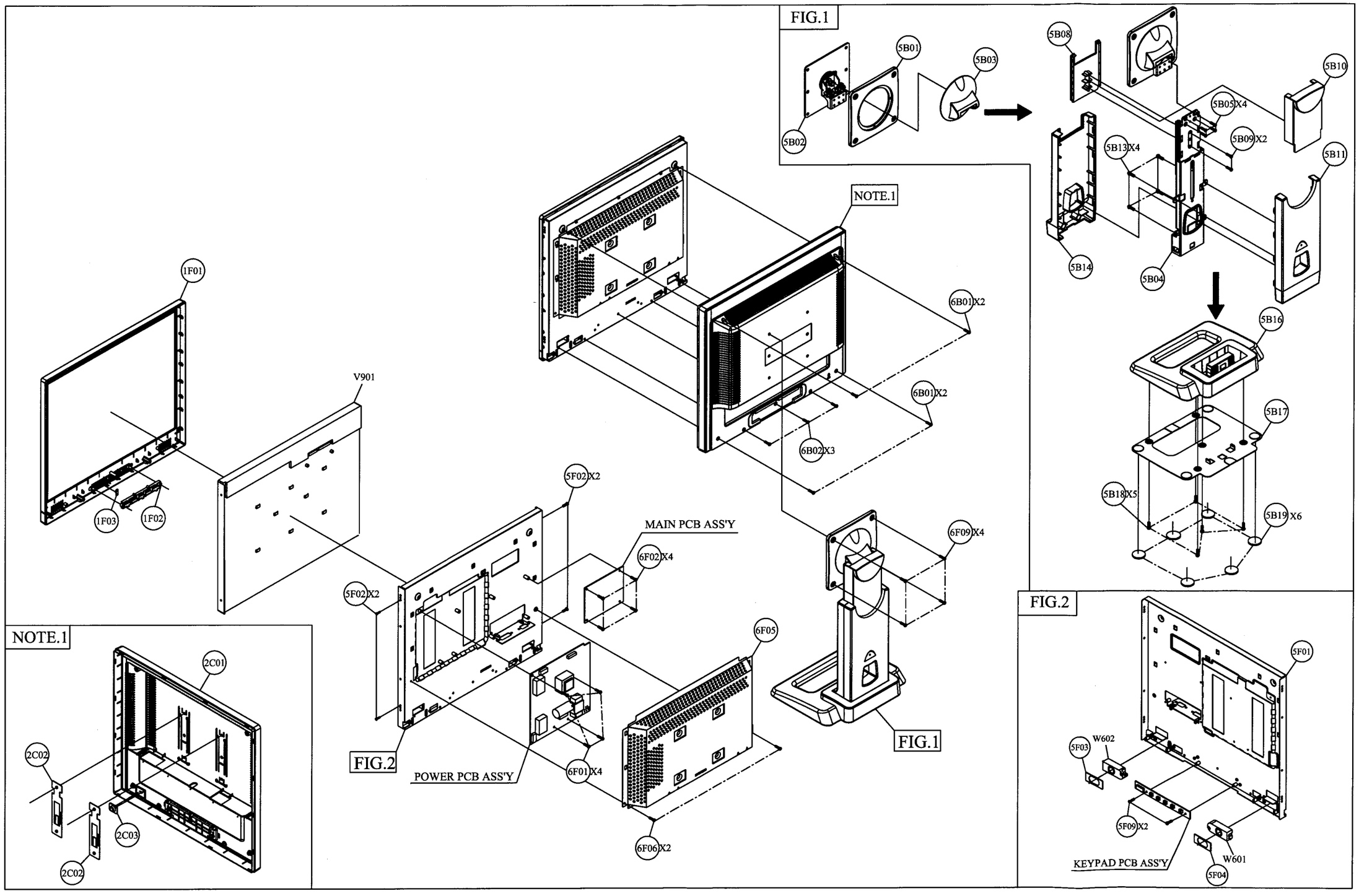
SIGNAL LEVEL

CONNECTOR	SIGNAL	DESCRIPTION
R	RED	0.7vp-p(VIDEO)
G	GREEN	0.7vp-p(VIDEO)
B	BLUE	0.7vp-p(VIDEO)
H	H/SYNC	TTL positive or negative
V	V/SYNC	TTL positive or negative
SDA	DDC1/2B	TTL
SCL	DDC1/2B	TTL

3.4. DVI CONNECTOR

PIN	DVI CONNECTOR	PIN	DVI CONNECTOR
1	RX2-	13	NC
2	RX2+	14	5V
3	GND	15	GND
4	NC	16	SENSE
5	NC	17	RX0-
6	SCL	18	RX0+
7	SDA	19	GND
8	V-SYNC	20	NC
9	RX1-	21	NC
10	RX1+	22	GND
11	GND	23	RXC-
12	NC	24	RXC+

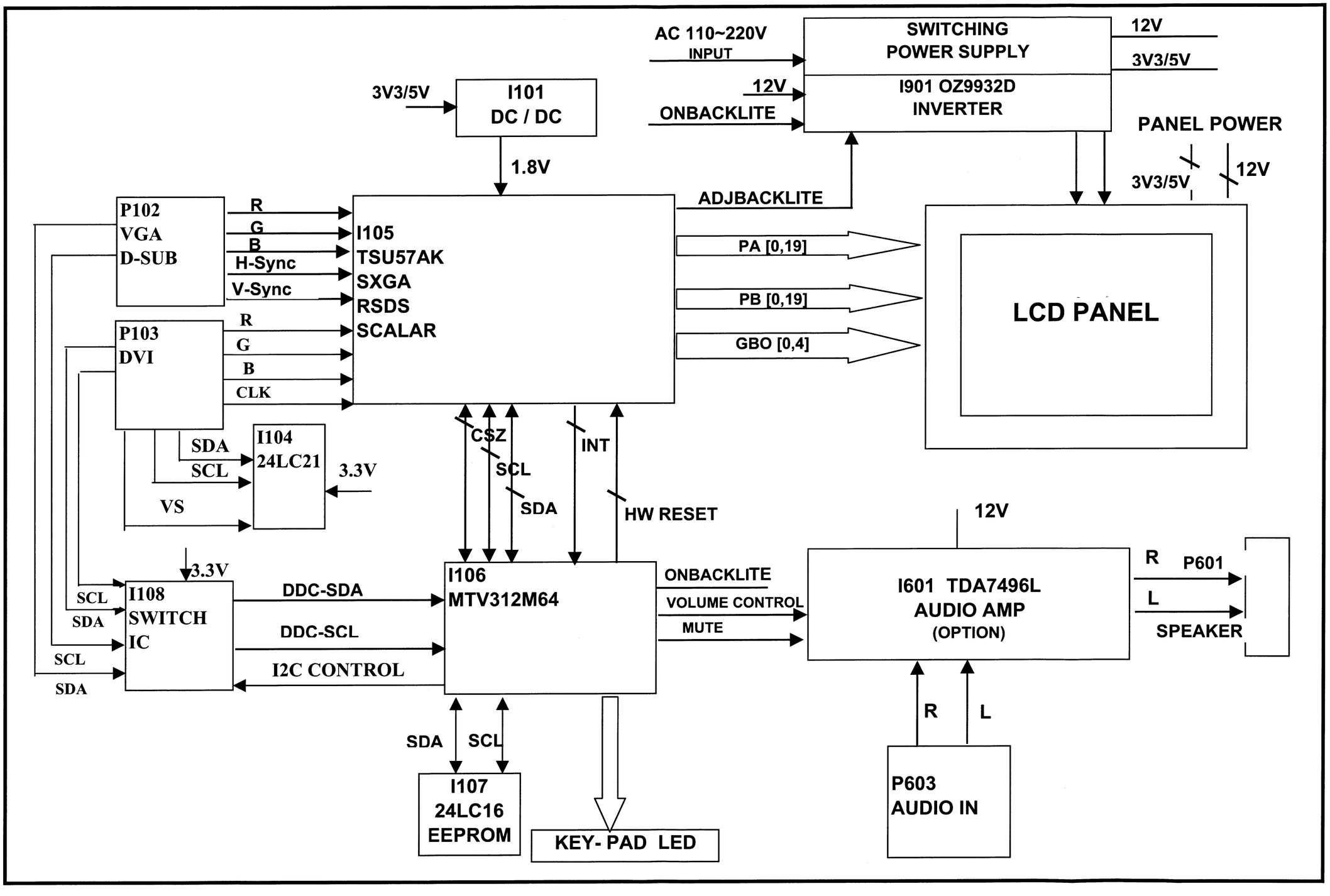
4.1. EXPLODED VIEW



4.2. EXPLODED VIEW PARTS LIST

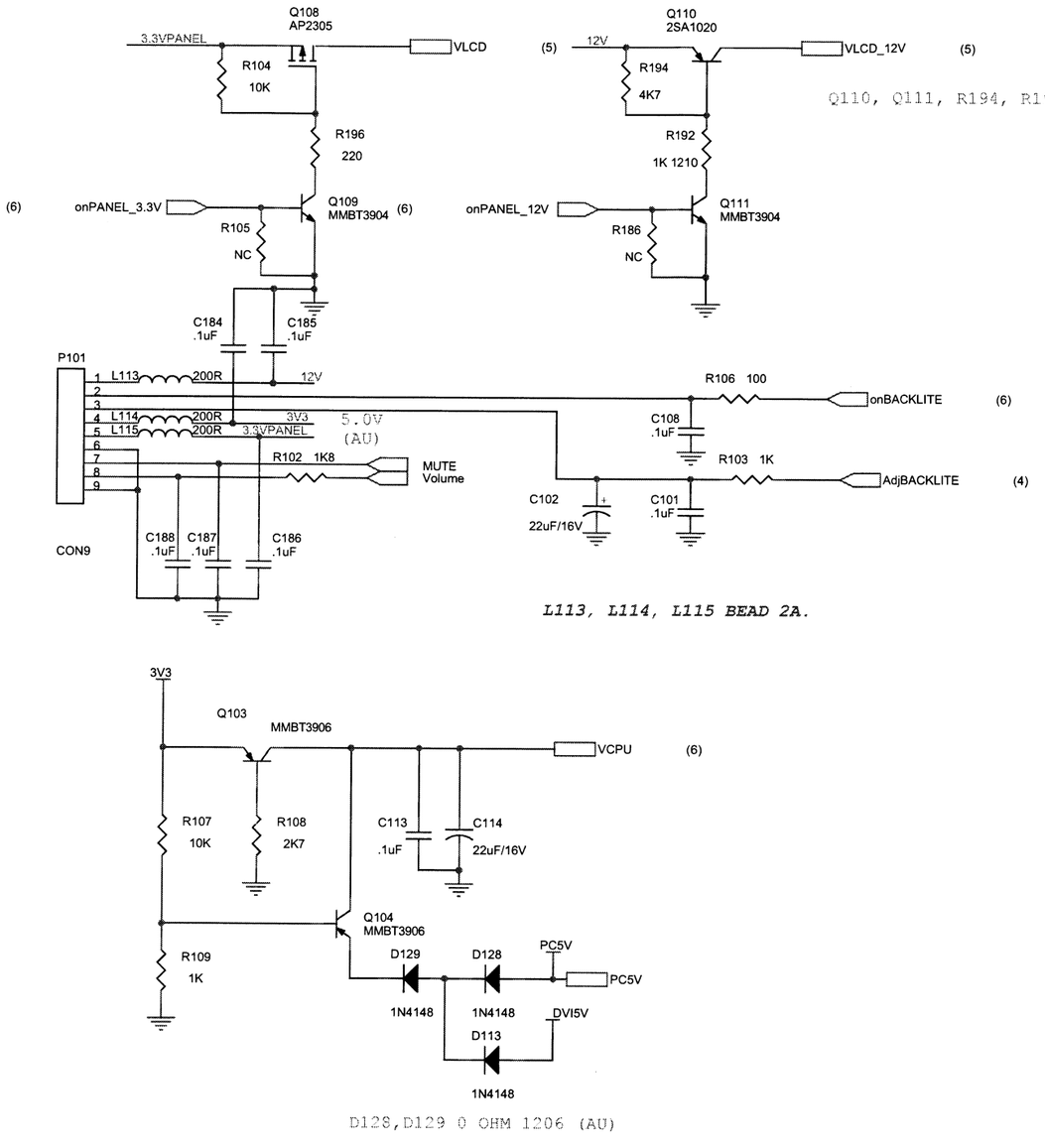
Ref. No.	Source	Part No.	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
1F01		2024268306	FRONT BEZEL	MAXDATA/ABS 94HB PS-7604B	1	
1F02		2053754001	LED INDIC.-PWR	JT198DP PMMA POWER	1	
1F03		2044266803	FUNCTION KEY	JT198DP ABS94HB PS-7604B	1	
2C01		2022264003	CABI BACK	BELINEA/ABS 94HB DVI BLACK C	1	
2C02		2071873500	BRACKET,FIX	JT178DP SECC 0.8T WALL MOUNT	2	
2C03		2071869400	BRACKET,FIX	METAL PLATE 1.0MM KENSINGTON	1	
5B01		2027260601	DUST COVER	DP(A) VESA COVER ABS94HB BLACK	1	
5B02		2106657200	HINGE	ADJUSTMENT HINGE -1'~+20' TILT	1	
5B03		2027260501	DUST COVER	DP(A) HINGE COVER ABS94HB BLAC	1	
5B04		2106657300	HINGE	17"A.J HINGE HIGH-LOW 80MM	1	
5B05		2082340086	SCREW,CSK+	SCREW (CKS+) M4X8 NYLOK	4	
5B08		2028554101	NECK	DP(A) ARM T COVER ABS94HB BLAC	1	
5B09		2084730082	SCREW,BND T+	M3X8(BND T+)	2	
5B10		2028554001	NECK	DP(A) ARM T ABS94HB BLACK C	1	
5B11		2028553901	NECK	DP(A) ARM B ABS94HB BLACK C	1	
5B13		2084730102	SCREW,BND T+	M3X10(BND T+)	4	
5B14		2028553801	NECK	DP(A) ARM F ABS94HB BLACK C	1	
5B16		2028259601	STAND	DP(A) STAND BASE ABS94HB BLACK	1	
5B17		2071974600	METAL FITTG	DP(A) BASE METAL SECC	1	
5B18		2084730082	SCREW,BND T+	M3X8(BND T+)	5	
5B19		2039819602	FOOT PAD	RUBBER φ16X1.5t GRAY	6	
5F01		2071973200	METAL FITTG	JT178D/SECC 0.8T DVI	1	
5F02		2080002200	SCREW,SPE	L355 M3x6 DH NICKEL-PLATED	4	
5F03		2061253600	SPONGE	76*42*1 EVA	1	
5F04		2061253600	SPONGE	76*42*1 EVA	1	
5F09		2082630062	SCREW	M3X6 P=0.5	2	
6B01		2082630082	SCREW	M3X8 P=0.5	4	
6B02		2084730102	SCREW,BND T+	M3X10(BND T+)	3	
6F01		2080003700	SCREW,SPE	1SZZTER001A M3*6LMSWR17/FZMY1	4	
6F02		2080003700	SCREW,SPE	1SZZTER001A M3*6LMSWR17/FZMY1	4	
6F05		2071672300	SHIELD PLATE	JT178DP/SPTE 0.3T DVI	1	
6F06		2082630042	SCREW	N3*4 P=0.5	2	
6F09		2082740104	SCREW,BND+	M4X10(BND+) BLK	4	

5. BLOCK DIAGRAM

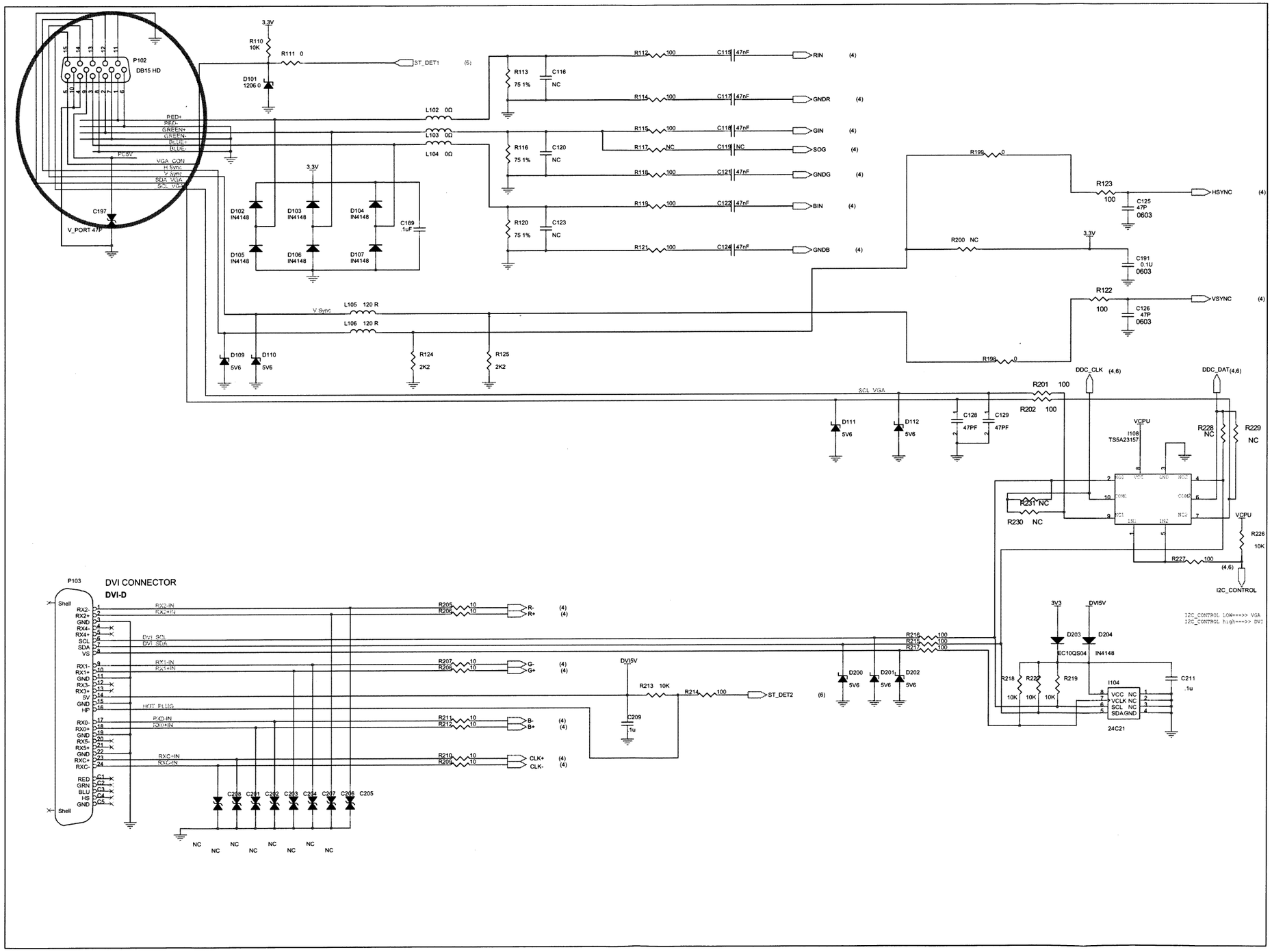


6. SCHEMATIC DIAGRAM

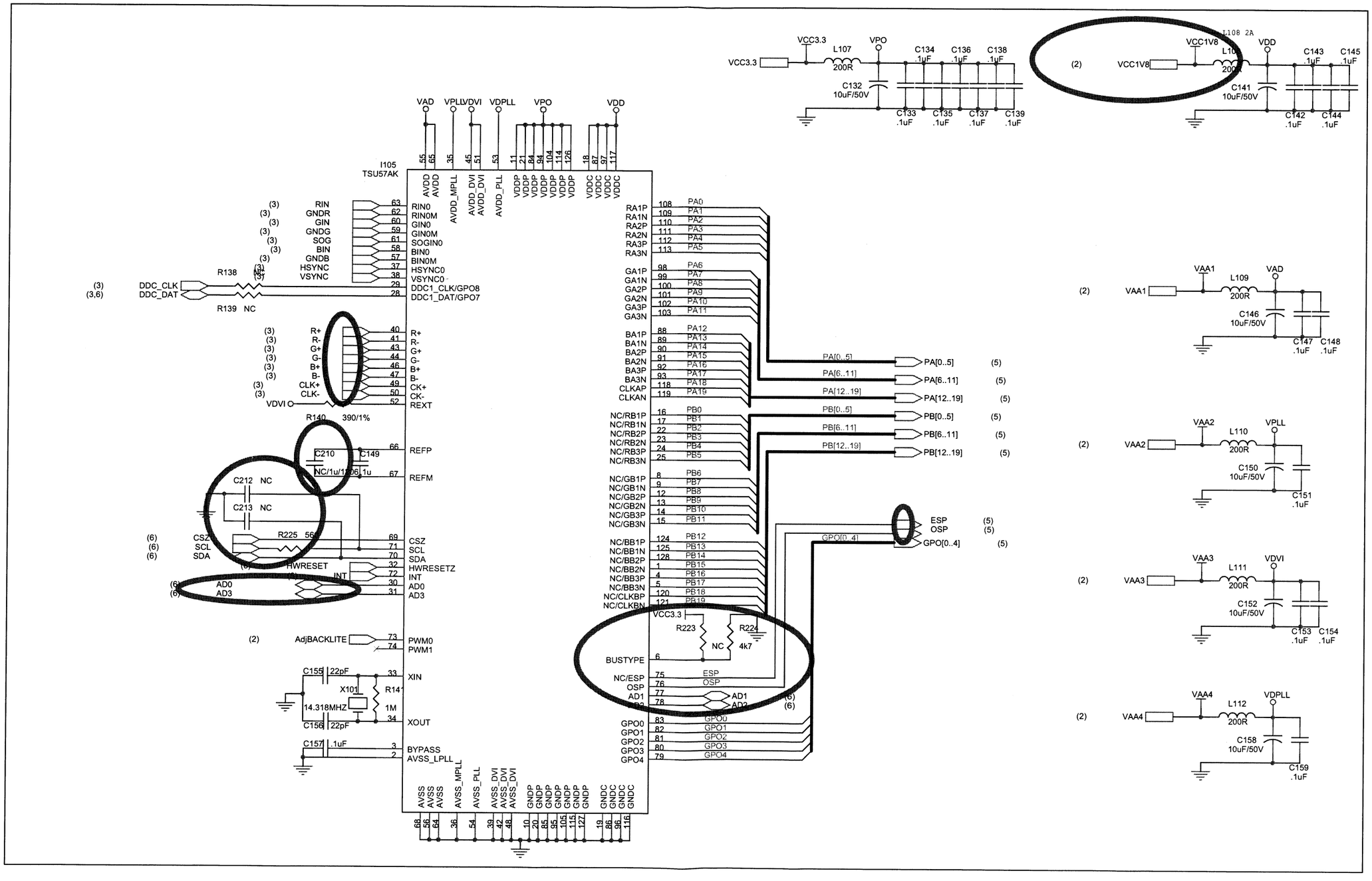
6.1. Power



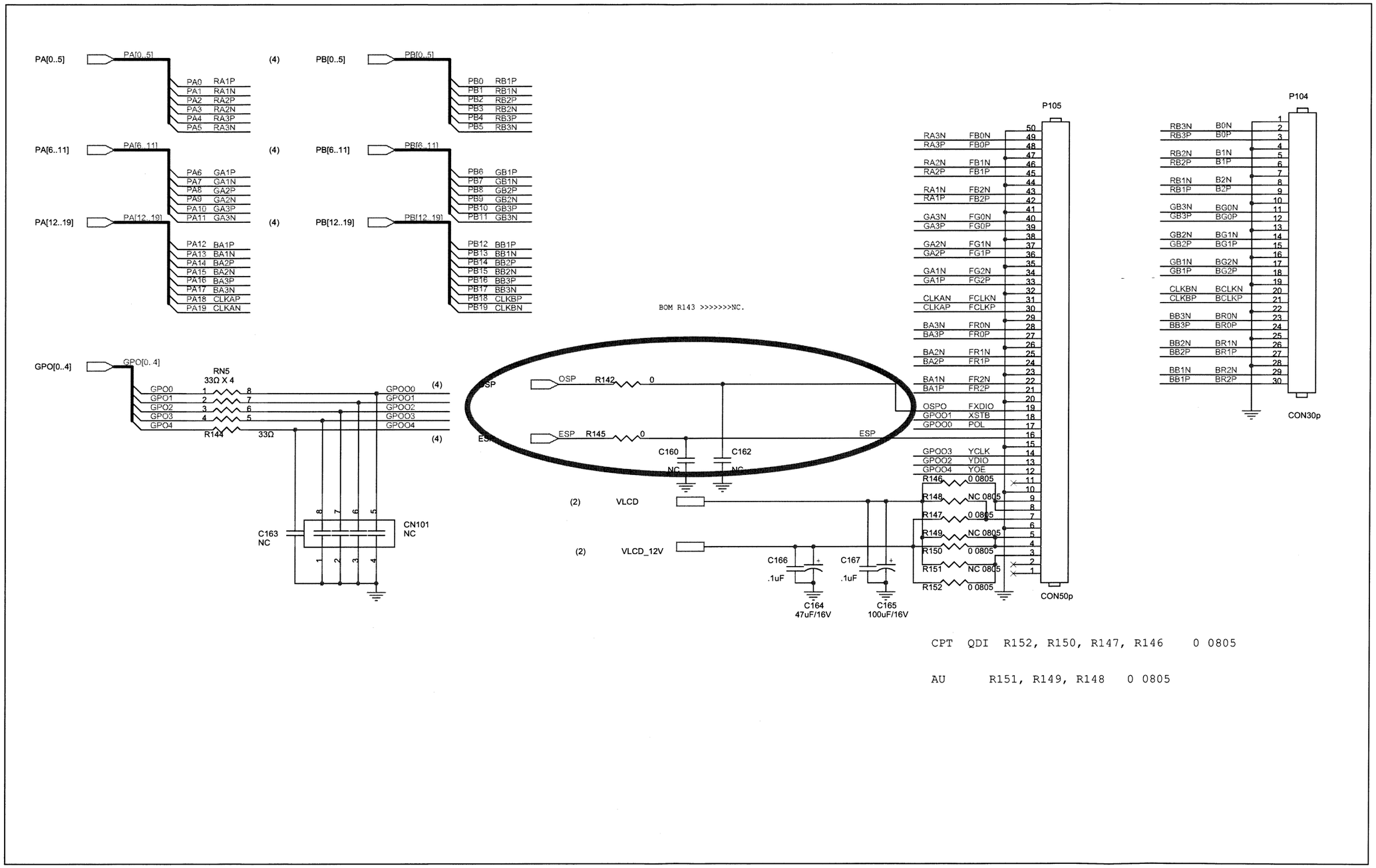
6.2. Input


P102
DB15 HD
PC5V
VGA_CON
H.Sync
V.Sync
SDA_VGA
SCL_VGA
C197
V_PORT 47P
3.3V
R110 10K
R111 0
ST_DET1 (6)
D101 1206 0
L102 0Ω
L103 0Ω
L104 0Ω
D102 IN4148
D103 IN4148
D104 IN4148
D105 IN4148
D106 IN4148
D107 IN4148
C189 1uF
R112 100
C115 47nF
RIN (4)
R113 75 1%
C116 NC
R114 100
C117 47nF
GNDR (4)
R115 100
C118 47nF
GIN (4)
R116 75 1%
C120 NC
R117 NC
C119 NC
SOG (4)
R118 100
C121 47nF
GNDG (4)
R119 100
C122 47nF
BIN (4)
R120 75 1%
C123 NC
R121 100
C124 47nF
GNDB (4)
R199 0
R123 100
C125 47P 0603
HSYNC (4)
R200 NC
C191 0.1U 0603
R122 100
C126 47P 0603
VSYNC (4)
R198 0
L105 120 R
L106 120 R
D109 5V6
D110 5V6
R124 2K2
R125 2K2
SCL_VGA
D111 5V6
D112 5V6
C128 47PF
C129 47PF
DDC_CLK (4,6)
DDC_DAT (4,6)
R201 100
R202 100
VCPU
I108 TS5A23157
R228 NC
R229 NC
R231 NC
R230 NC
R226 10K
R227 100
(4,6)
I2C_CONTROL
I2C_CONTROL LOW===>> VGA
I2C_CONTROL high===>> DVI
3V3
DVI5V
D203 EC10QS04
D204 IN4148
R218 10K
R222 10K
R219 10K
I104 24C21
C211 .1u
P103
DVI CONNECTOR
DVI-D
Shell
RX2-
RX2+
GND
RX4-
RX4+
SCL
SDA
VS
RX1-
RX1+
GND
RX3-
RX3+
5V
GND
HP
RX0-
RX0+
GND
RX5-
RX5+
GND
RXC+
RXC-
RED
GRN
BLU
HS
GND
Shell
RX2-IN
RX2+IN
DVI SCL
DVI SDA
RX1-IN
RX1+IN
HOT PLUG
RX0-IN
RX0+IN
RXC+IN
RXC-IN
R205 10
R206 10
R-
R+
R207 10
R208 10
G-
G+
R211 10
R212 10
B-
B+
R210 10
R209 10
CLK+
CLK-
DVI5V
R213 10K
R214 100
ST_DET2 (6)
C209 1u
D200 5V6
D201 5V6
D202 5V6
R216 100
R215 100
R217 100
C208 C201 C202 C203 C204 C207 C206 C205
NC

6.3. Scaler


I105
TSU57AK
VAD
VPLL
VDVI
VDPLL
VPO
VDD
AVDD
AVDD_MPLL
AVDD_DVI
AVDD_PLL
VDDP
VDDC
RIN
GNDR
GIN
GNDG
SOG
BIN
GNDB
HSYNC
VSYNC
RIN0
RIN0M
GIN0
GIN0M
SOGIN0
BIN0
BIN0M
HSYNC0
VSYNC0
DDC_CLK
DDC_DAT
DDC1_CLK/GPO8
DDC1_DAT/GPO7
R138 NC
R139 NC
R+
R-
G+
G-
B+
B-
CLK+
CLK-
CK+
CK-
REXT
VDVI
R140 390/1%
REFP
REFM
C210
C149
NC/1u/1206
1u
C212 NC
C213 NC
CSZ
SCL
SDA
R225 56
HWRESET
INT
AD0
AD3
HWRESETZ
AdjBACKLITE
PWM0
PWM1
C155 22pF
X101
14.318MHZ
R141
1M
C156 22pF
XIN
XOUT
C157 .1uF
BYPASS
AVSS_LPLL
AVSS
AVSS_MPLL
AVSS_PLL
AVSS_DVI
GNDP
GNDC
RA1P
RA1N
RA2P
RA2N
RA3P
RA3N
GA1P
GA1N
GA2P
GA2N
GA3P
GA3N
BA1P
BA1N
BA2P
BA2N
BA3P
BA3N
CLKAP
CLKAN
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
PA16
PA17
PA18
PA19
PA[0..5]
PA[6..11]
PA[12..19]
NC/RB1P
NC/RB1N
NC/RB2P
NC/RB2N
NC/RB3P
NC/RB3N
NC/GB1P
NC/GB1N
NC/GB2P
NC/GB2N
NC/GB3P
NC/GB3N
NC/BB1P
NC/BB1N
NC/BB2P
NC/BB2N
NC/BB3P
NC/BB3N
NC/CLKBP
NC/CLKBN
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
PB16
PB17
PB18
PB19
PB[0..5]
PB[6..11]
PB[12..19]
VCC3.3
R223
R224
NC
4k7
BUSTYPE
NC/ESP
ESP
OSP
AD1
AD2
GPO0
GPO1
GPO2
GPO3
GPO4
GPO[0..4]
L107
200R
C132
10uF/50V
C133
C134
C135
C136
C137
C138
C139
.1uF
I108 2A
L108
C141
10uF/50V
C142
C143
C144
C145
L109
C146
10uF/50V
C147
C148
L110
C150
10uF/50V
C151
L111
C152
10uF/50V
C153
C154
L112
C158
10uF/50V
C159
VAA1
VAA2
VAA3
VAA4
VCC1V8

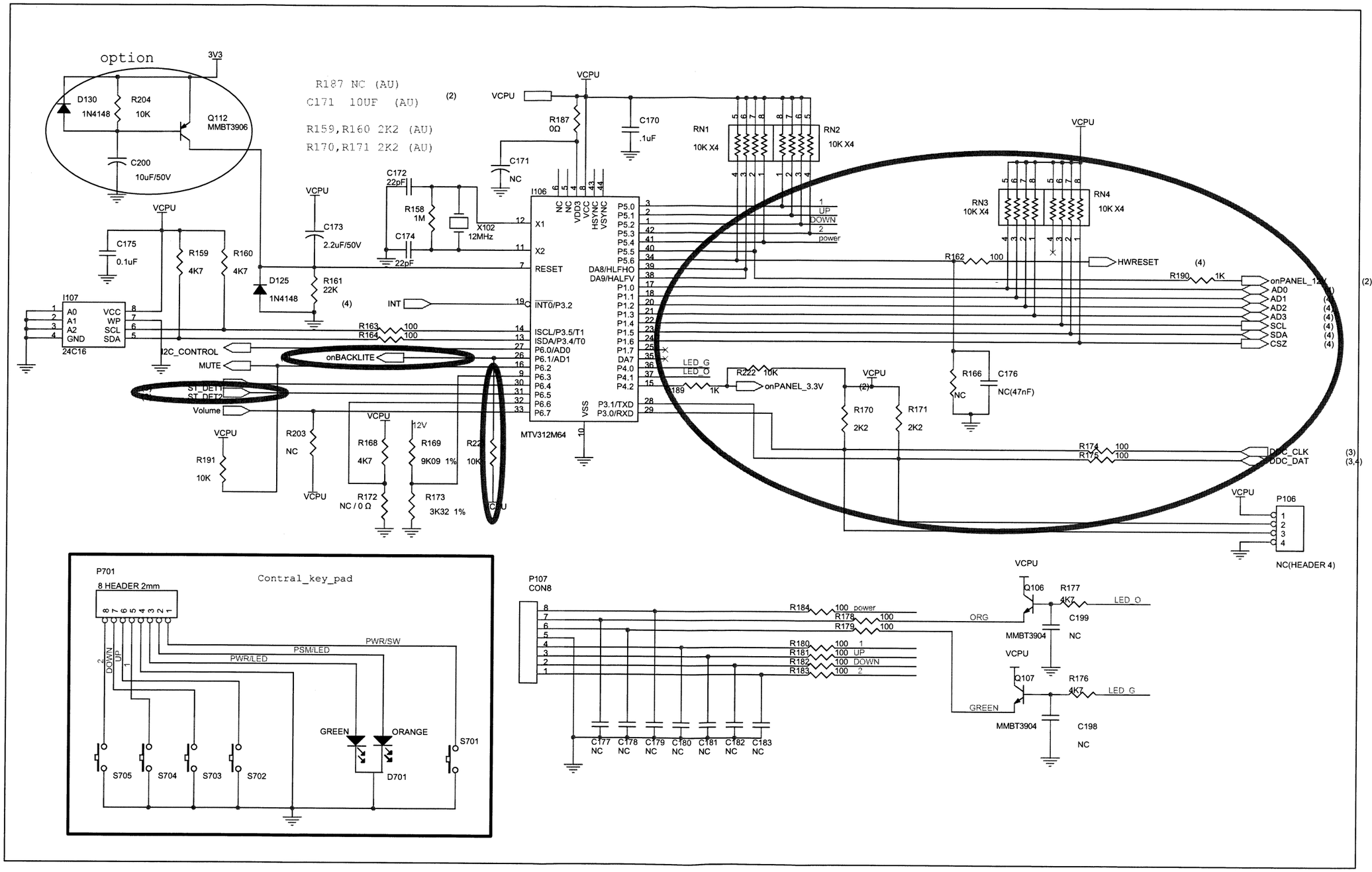
6.4. Panel Interface



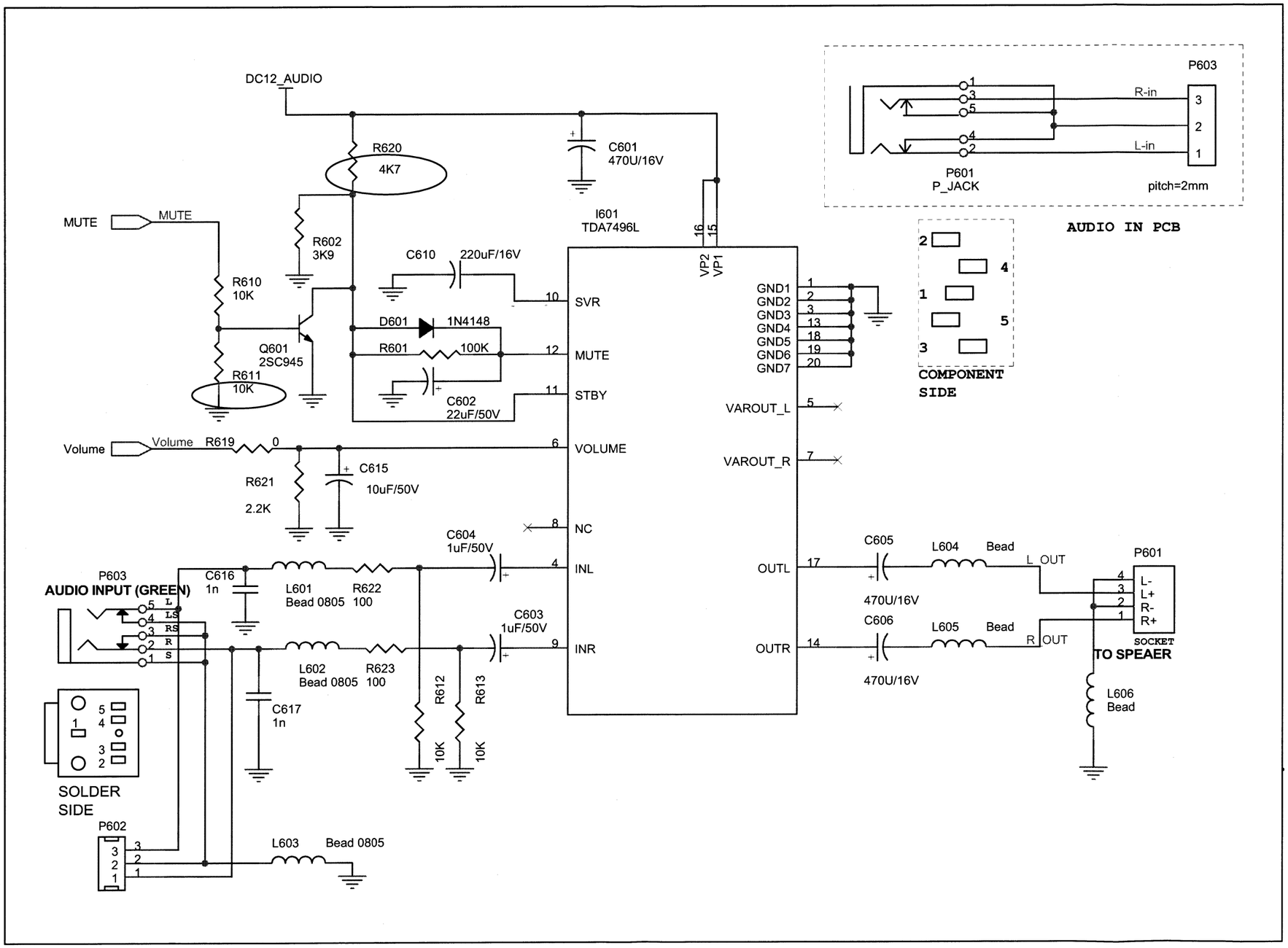
CPT QDI R152, R150, R147, R146 0 0805

AU R151, R149, R148 0 0805

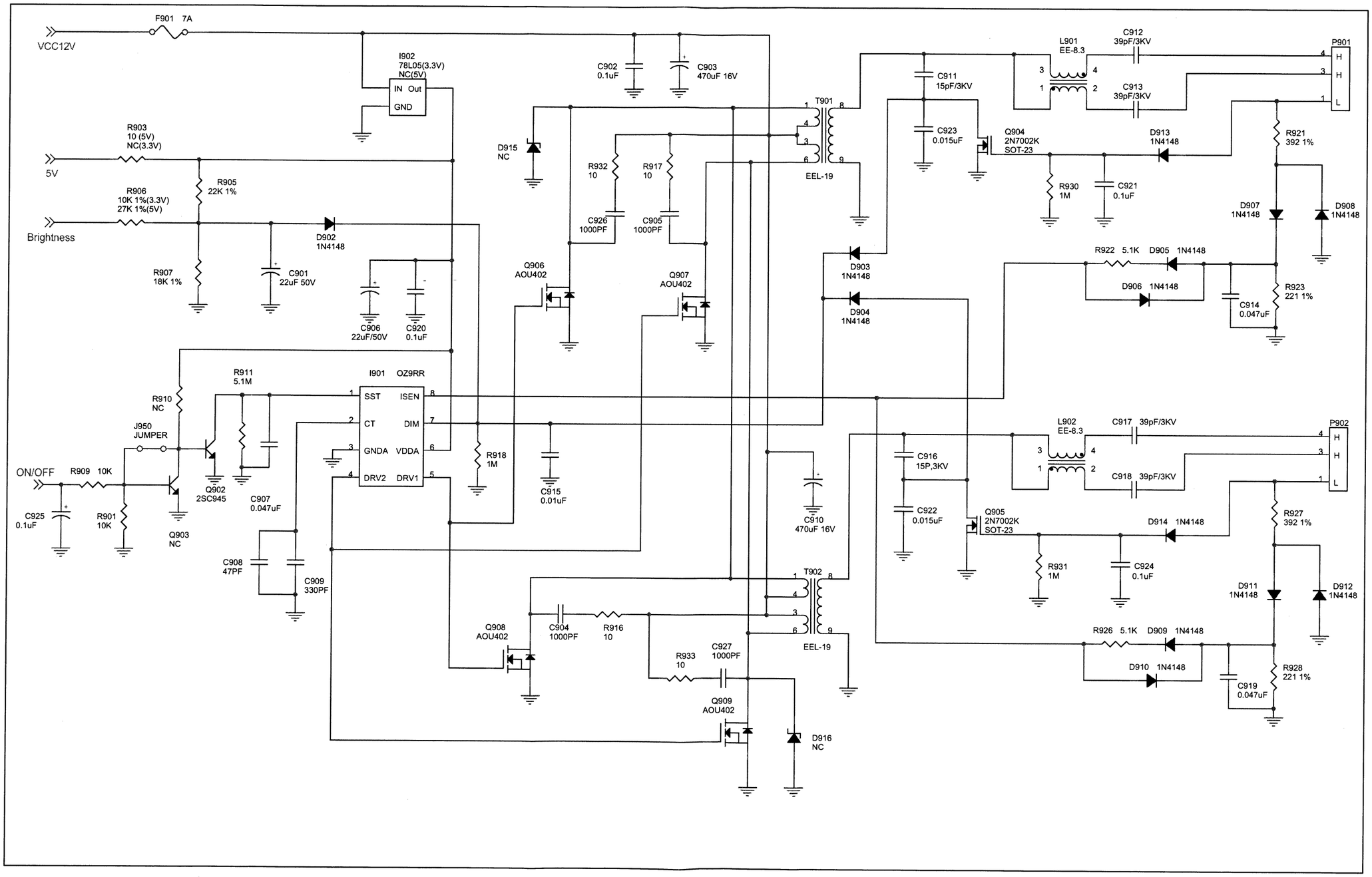
6.5. MCU


option
3V3
D130
1N4148
R204
10K
Q112
MMBT3906
C200
10uF/50V
R187 NC (AU)
C171 10UF (AU)
R159,R160 2K2 (AU)
R170,R171 2K2 (AU)
VCPU
R187
0Ω
C170
.1uF
C171
NC
RN1
10K X4
RN2
10K X4
RN3
10K X4
RN4
10K X4
C172
22pF
C173
2.2uF/50V
R158
1M
X102
12MHz
C174
22pF
C175
0.1uF
R159
4K7
R160
4K7
D125
1N4148
R161
22K
I106
P5.0
P5.1
P5.2
P5.3
P5.4
P5.5
P5.6
DA8/HLFHO
DA9/HALFV
P1.0
P1.1
P1.2
P1.3
P1.4
P1.5
P1.6
P1.7
DA7
P4.0
P4.1
P4.2
P3.1/TXD
P3.0/RXD
X1
X2
RESET
INT0/P3.2
ISCL/P3.5/T1
ISDA/P3.4/T0
P6.0/AD0
P6.1/AD1
P6.2
P6.3
P6.4
P6.5
P6.6
P6.7
MTV312M64
I107
24C16
A0
A1
A2
GND
VCC
WP
SCL
SDA
INT
I2C_CONTROL
MUTE
onBACKLITE
ST_DET1
ST_DET2
Volume
R163
R164
100
R189
1K
LED_G
LED_O
R222
10K
onPANEL_3.3V
R166
NC
C176
NC(47nF)
R170
2K2
R171
2K2
R162
100
HWRESET
R190
1K
onPANEL_12V
AD0
AD1
AD2
AD3
SCL
SDA
CSZ
R174
R175
100
DDC_CLK
DDC_DAT
R191
10K
R203
NC
R168
4K7
R169
9K09 1%
R172
NC / 0 Ω
R173
3K32 1%
12V
P106
NC(HEADER 4)
P701
8 HEADER 2mm
Contral_key_pad
PWR/SW
PSM/LED
PWR/LED
DOWN
UP
GREEN
ORANGE
S705
S704
S703
S702
S701
D701
P107
CON8
R184
R178
R179
R180
R181
R182
R183
power
UP
DOWN
ORG
C177
C178
C179
C180
C181
C182
C183
Q106
Q107
MMBT3904
R177
R176
4K7
C199
C198

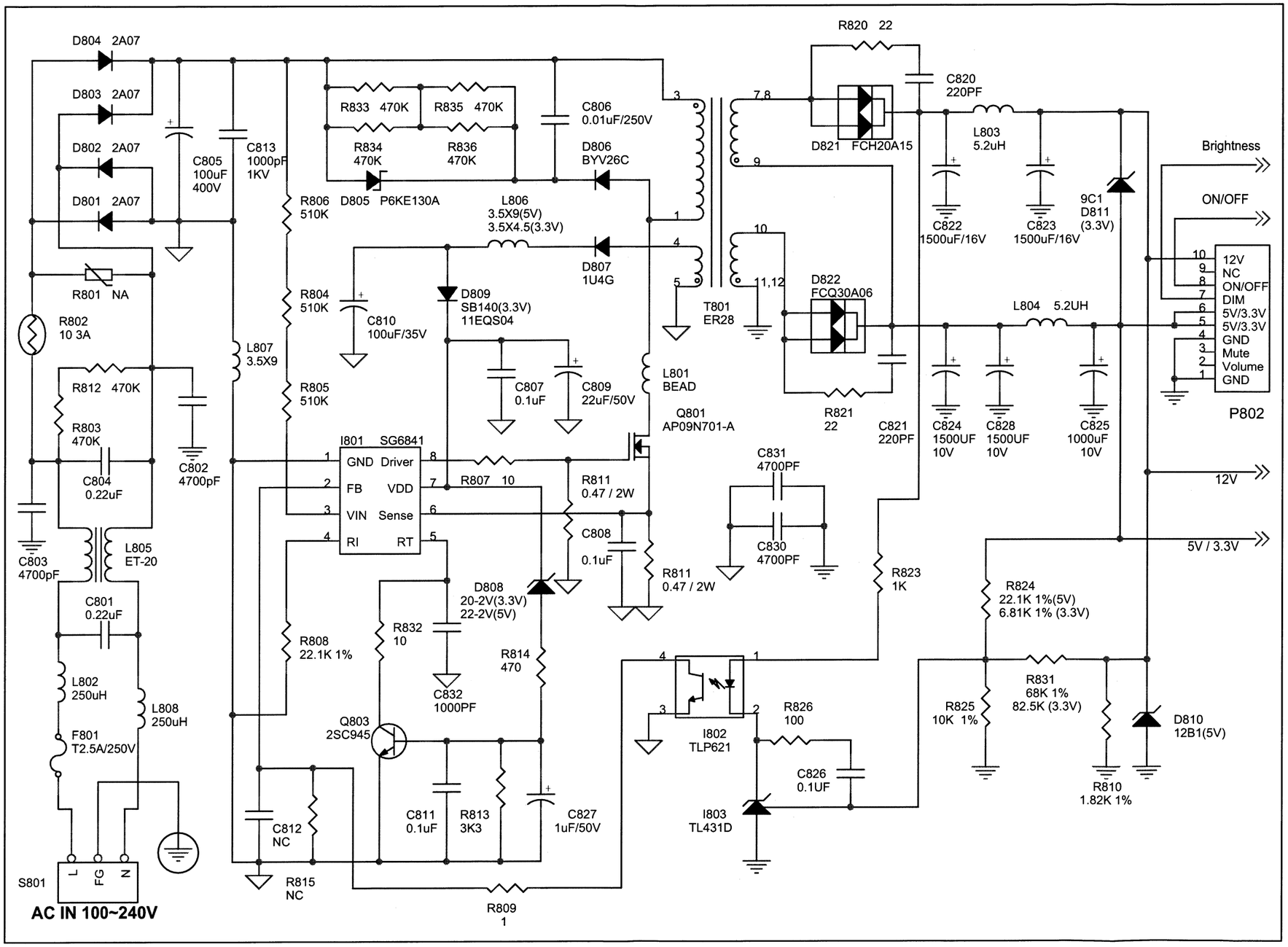
6.6. Audio


DC12_AUDIO
R620
4K7
C601
470U/16V
I601
TDA7496L
MUTE
MUTE
R602
3K9
C610
220uF/16V
R610
10K
D601
1N4148
R601
100K
Q601
2SC945
R611
10K
C602
22uF/50V
Volume
Volume
R619
0
R621
2.2K
C615
10uF/50V
C604
1uF/50V
C603
1uF/50V
C616
1n
L601
Bead 0805
R622
100
L602
Bead 0805
R623
100
C617
1n
R612
10K
R613
10K
P603
AUDIO INPUT (GREEN)
SOLDER
SIDE
P602
L603
Bead 0805
SVR
MUTE
STBY
VOLUME
NC
INL
INR
VP2
VP1
GND1
GND2
GND3
GND4
GND5
GND6
GND7
VAROUT_L
VAROUT_R
OUTL
OUTR
C605
470U/16V
C606
470U/16V
L604
Bead
L605
Bead
L606
Bead
L OUT
R OUT
P601
SOCKET
TO SPEAER
P603
R-in
L-in
P601
P_JACK
pitch=2mm
AUDIO IN PCB
COMPONENT
SIDE

6.7. Inverter


F901 7A
VCC12V
I902
78L05(3.3V)
NC(5V)
IN Out
GND
C902
0.1uF
C903
470uF 16V
R903
10 (5V)
NC(3.3V)
5V
R905
22K 1%
R906
10K 1%(3.3V)
27K 1%(5V)
Brightness
D902
1N4148
R907
18K 1%
C901
22uF 50V
C906
22uF/50V
C920
0.1uF
D915
NC
R932
10
R917
10
C926
1000PF
C905
1000PF
Q906
AOU402
Q907
AOU402
T901
EEL-19
C911
15pF/3KV
C923
0.015uF
L901
EE-8.3
C912
39pF/3KV
C913
39pF/3KV
P901
Q904
2N7002K
SOT-23
D913
1N4148
R921
392 1%
R930
1M
C921
0.1uF
D907
1N4148
D908
1N4148
R922 5.1K
D905 1N4148
D906 1N4148
R923
221 1%
C914
0.047uF
D903
1N4148
D904
1N4148
R911
5.1M
I901 OZ9RR
SST ISEN
CT DIM
GNDA VDDA
DRV2 DRV1
R910
NC
J950
JUMPER
ON/OFF
R909 10K
Q902
2SC945
C907
0.047uF
C925
0.1uF
R901
10K
Q903
NC
C908
47PF
C909
330PF
R918
1M
C915
0.01uF
C910
470uF 16V
C916
15P,3KV
C922
0.015uF
L902
EE-8.3
C917 39pF/3KV
C918 39pF/3KV
P902
Q905
2N7002K
SOT-23
D914 1N4148
R927
392 1%
R931
1M
C924
0.1uF
D911
1N4148
D912
1N4148
R926 5.1K
D909 1N4148
D910 1N4148
R928
221 1%
C919
0.047uF
T902
EEL-19
Q908
AOU402
C904
1000PF
R916
10
R933
10
C927
1000PF
Q909
AOU402
D916
NC

6.8. A/D Power


D804 2A07
D803 2A07
D802 2A07
D801 2A07
C805 100uF 400V
C813 1000pF 1KV
R801 NA
R802 10 3A
R812 470K
R803 470K
C804 0.22uF
C802 4700pF
C803 4700pF
L805 ET-20
C801 0.22uF
L802 250uH
L808 250uH
F801 T2.5A/250V
S801
L
FG
N
AC IN 100~240V
L807 3.5X9
R804 510K
R805 510K
R806 510K
R833 470K
R835 470K
R834 470K
R836 470K
C806 0.01uF/250V
D806 BYV26C
D805 P6KE130A
L806 3.5X9(5V) 3.5X4.5(3.3V)
D807 1U4G
C810 100uF/35V
D809 SB140(3.3V) 11EQS04
C807 0.1uF
C809 22uF/50V
I801 SG6841
GND
Driver
FB
VDD
VIN
Sense
RI
RT
R807 10
R811 0.47 / 2W
C808 0.1uF
R811 0.47 / 2W
D808 20-2V(3.3V) 22-2V(5V)
R808 22.1K 1%
R832 10
C832 1000PF
R814 470
Q803 2SC945
C811 0.1uF
R813 3K3
C827 1uF/50V
C812 NC
R815 NC
R809 1
L801 BEAD
Q801 AP09N701-A
C831 4700PF
C830 4700PF
T801 ER28
R820 22
C820 220PF
D821 FCH20A15
L803 5.2uH
C822 1500uF/16V
C823 1500uF/16V
9C1 D811 (3.3V)
D822 FCQ30A06
L804 5.2UH
R821 22
C821 220PF
C824 1500UF 10V
C828 1500UF 10V
C825 1000uF 10V
R823 1K
I802 TLP621
R826 100
C826 0.1UF
I803 TL431D
R824 22.1K 1%(5V) 6.81K 1% (3.3V)
R825 10K 1%
R831 68K 1% 82.5K (3.3V)
R810 1.82K 1%
D810 12B1(5V)
Brightness
ON/OFF
12V
5V / 3.3V
12V
NC
ON/OFF
DIM
5V/3.3V
5V/3.3V
GND
Mute
Volume
GND
P802

7. WORKING THEOREM

A. Scaling controller

The ADC is to convert RGB analog signal to digital signal that scaling chip can acknowledge.
The HSYNC input receives a logic signal and provides the frequency reference for pixel clock generation.
The scaling IC is to converts the input signal ranging from VGA to SXGA into SXGA resolution that panel can acknowledge.

GENERAL DESCRIPTION

The TSU57AK is a high performance, and fully integrated graphics processing IC solution for LCD monitors with resolutions up to SXGA. It is configured with an integrated triple-ADC/PLL, a high quality scaling engine, an on-screen display controller, a built-in output clock generator, a panel timing controller (TCON), and RSDS display interface. To further reduce system costs, the TSU57AK also integrates intelligent power management control capability for green-mode requirements and spread-spectrum support for EMI management.

PIN DESCRIPTION

CPU Interface
Pin Name Pin Type Function Pin
HWRESET Schmitt Trigger Input
w/ 5V-tolerant
Hardware reset; active high 32
CS Input w/ 5V-tolerant 3 Wire Serial Bus Chip Select; active high 69
SDA I/O w/ 5V-tolerant 3 Wire Serial Bus Data; 4mA driving strength 70
SCL Input w/ 5V-tolerant 3 Wire Serial Bus Clock 71
INT Output CPU interrupt; 4mA driving strength 72
AD3 I/O w/ 5V-tolerant DDR direct bus AD3; 4mA driving strength 31
AD2 I/O w/ 5V-tolerant DDR direct bus AD2; 8mA driving strength 78
AD1 I/O w/ 5V-tolerant DDR direct bus AD1; 8mA driving strength 77
AD0 I/O w/ 5V-tolerant DDR direct bus AD0; 4mA driving strength 30
ALE I w/ 5V-tolerant DDR direct bus ALE; active high 69
RDZ I w/ 5V-tolerant DDR direct bus RDZ; active low 71
WRZ I w/ 5V-tolerant DDR direct bus WRZ; active low 70
BUSTYPE Input (not 5V-tolerant) Bus type
Low : Serial bus
High : Direct bus
Analog Interface
Pin Name Pin Type Function Pin
HSYNC0 Schmitt Trigger Input
w/ 5V-tolerant
Analog HSYNC input 37
VSYNC0 Schmitt Trigger Input
w/ 5V-tolerant
Analog VSYNC input 38
REFP Internal ADC top de-coupling pin 66
REFM Internal ADC bottom de-coupling pin 67
RIN0P Analog Input Analog red input 63
RIN0M Analog Input Reference ground for analog red input 62
SOGIN0 Analog Input Sync-on-green input 61
GIN0P Analog Input Analog green input 60
GIN0M Analog Input Reference ground for analog green input 59
BIN0P Analog Input Analog blue input 58
BIN0M Analog Input Reference ground for analog blue input 57
REXT External resistor 390 ohm to AVDD_ADC 52
TSU57AK
SXGA LCD Controller with Analog Interface and Dual RSDS Transmitter
Preliminary Product Brief Version 0.1
Version 0.1 - 5 - 7/8/2004

RSDS Interface
Pin Name Pin Type Function Pin
CLKAP Output A-Link Positive RSDS Differential Clock Output 118
CLKAN Output A-Link Negative RSDS Differential Clock Output 119
CLKBP Output B-Link Positive RSDS Differential Clock Output 120
CLKBN Output B-Link Negative RSDS Differential Clock Output 121

BA[3:1]P Output A-Link Positive RSDS Differential Data Output 92, 90, 88
BA[3:1]N Output A-Link Negative RSDS Differential Data Output 93, 91, 89
GA[3:1]P Output A-Link Positive RSDS Differential Data Output 102, 100, 98
GA[3:1]N Output A-Link Negative RSDS Differential Data Output 103, 101, 99
RA[3:1]P Output A-Link Positive RSDS Differential Data Output 112, 110, 108
RA[3:1]N Output A-Link Negative RSDS Differential Data Output 113, 111, 109
BB[3:1]P Output B-Link Positive RSDS Differential Data Output 4, 128, 124
BB[3:1]N Output B-Link Negative RSDS Differential Data Output 5, 1, 125
GB[3:1]P Output B-Link Positive RSDS Differential Data Output 14, 12, 8
GB[3:1]N Output B-Link Negative RSDS Differential Data Output 15, 13, 9
RB[3:1]P Output B-Link Positive RSDS Differential Data Output 24, 22, 16
RB[3:1]N Output B-Link Negative RSDS Differential Data Output 25, 23, 17
GPO[8:5] Output TCON GPO[8:5]; 4mA driving strength 29, 28, 30, 31
GPO[4:0] Output w/ Pull-down
Resistor
TCON GPO[4:0]; 8mA driving strength 79-83
OSP Output w/ Pull-down
Resistor
TCON A-Link Start Pulse; 8mA driving strength 76
ESP Output w/ Pull-down
Resistor
TCON B-Link Start Pulse; 8mA driving strength 75
Note: GPO5, 6, 7, and 8 can not be used when the pixel bus needs to perform MSB/LSB swap function.

GPO Interface
Pin Name Pin Type Function Pin
PWM1 Output PWM1; 4mA driving strength 74
PWM0 Output PWM0; 4mA driving strength 73
Misc. Interface
Pin Name Pin Type Function Pin
BYPASS For External Bypass Capacitor 3
XIN Crystal Oscillator Input Xin 33
XOUT Crystal Oscillator Output Xout 34
TSU57AK
SXGA LCD Controller with Analog Interface and Dual RSDS Transmitter
Preliminary Product Brief Version 0.1
Power Pins
Pin Name Pin Type Function Pin
AVDD_ADC 3.3V Power ADC Power 45, 51, 55, 65
AVDD_PLL 3.3V Power PLL Power 53
AVDD_MPLL 3.3V Power MPLL Power 35
VDDP 3.3V Power Digital Output Power 11, 21, 84, 94, 104, 114, 126
VDDC 1.8V Power Digital Core Power 18, 87, 97, 117
GND Ground Ground 2, 10, 19, 20, 36, 39, 42, 48,
54, 56, 64, 68, 85, 86, 95,
96, 105, 115, 116, 127
No Connects
Pin Name Pin Type Function Pin
NC No Connect. Leave These Pins Floating. 7, 26, 27, 40, 41, 43, 44,
46, 47, 49, 50, 106, 107,
122, 123

B. MTV312M64

The MTV312M micro-controller is an 8051 CPU core embedded device especially tailored for CRT/LCD
Monitor applications. It includes an 8051 CPU core, 1024-byte SRAM, 14 built-in PWM DACs, VESA DDC interface, 4-channel A/D converter, and a 64K-byte internal program Flash-ROM.
A "CMOS output pin" means it can sink and drive at least 4mA current. It is not recommended to use such pin as input function.
A "open drain pin" means it can sink at least 4mA current but only drive 10~20uA to VDD. It can be used as input or output function and needs an external pull up resistor.
A "8051 standard pin" is a pseudo open drain pin. It can sink at least 4mA current when output is at low level, and drives at least 4mA current for 160nS when output transits from low to high, then keeps driving at 100uA to maintain the pin at high level. It can be used as input or output function. It needs an external pull up resistor when driving heavy load device.

POWER CONFIGURATION
The MTV312M can work on 5V or 3.3V power supply system.
In 5V power system, the VDD pin is connected to 5V power and the VDD3 needs an external capacitor, all

output pins can swing from 0~5V, input pins can accept 0~5V input range.
And ADC conversion range is 5V. However, X1 and X2 pins must be kept below 3.3V.
In 3.3V power system, the VDD and VDD3 are connected to 3.3V power, all output pins swing from 0~3.3V, HSYNC, VSYNC and open drain pin can accept 0~5V input range, other pins must be kept below 3.3V. And the ADC conversion range is 3.3V.

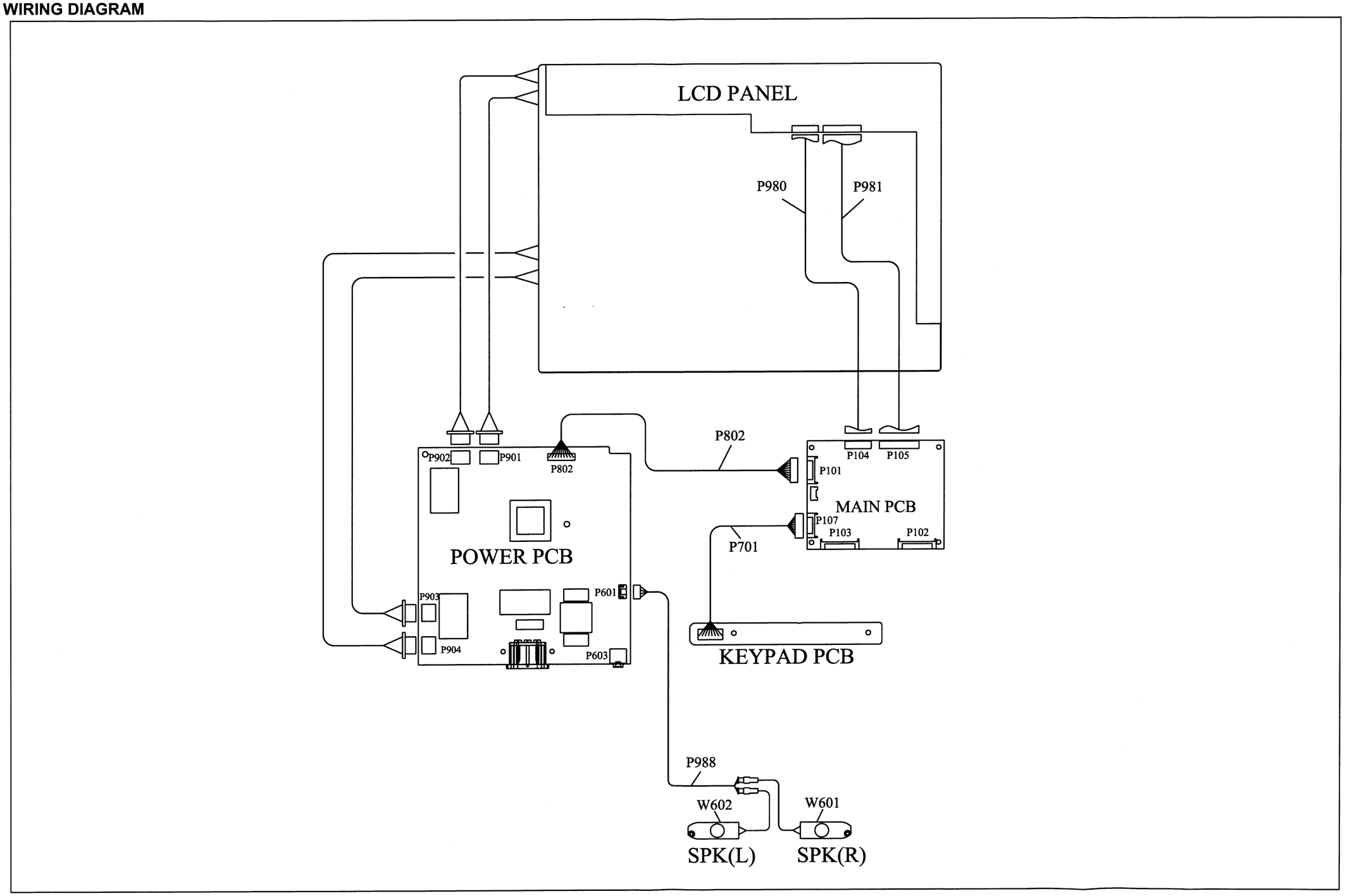
C. INVERTER

In order to drive the CCFLs embedded in the panel module, there is a half bridge inverter to convert by the controller.
The input 12V up to hundreds of AC voltage output.
The inverter is formed by symmetric in order to drive the separate lamp modules.
The input stage consists of a PWM controller, half bridge inverter, and switching MOSFET to convert DC input into AC output.
The output stage consists of a tuning capacitor, coupling capacitor, transformer, push-pull MOSFET pair to boost AC output up to hundreds of voltage.
And one resister is serial to lamp for output voltage feedback.
There are two signal to control the inverter which come from system.
Logic "high" level which send to I901 is turn on the inverter.
BRI signal control brightness by DC level which was integral from PWM signal.

D. AUDIO

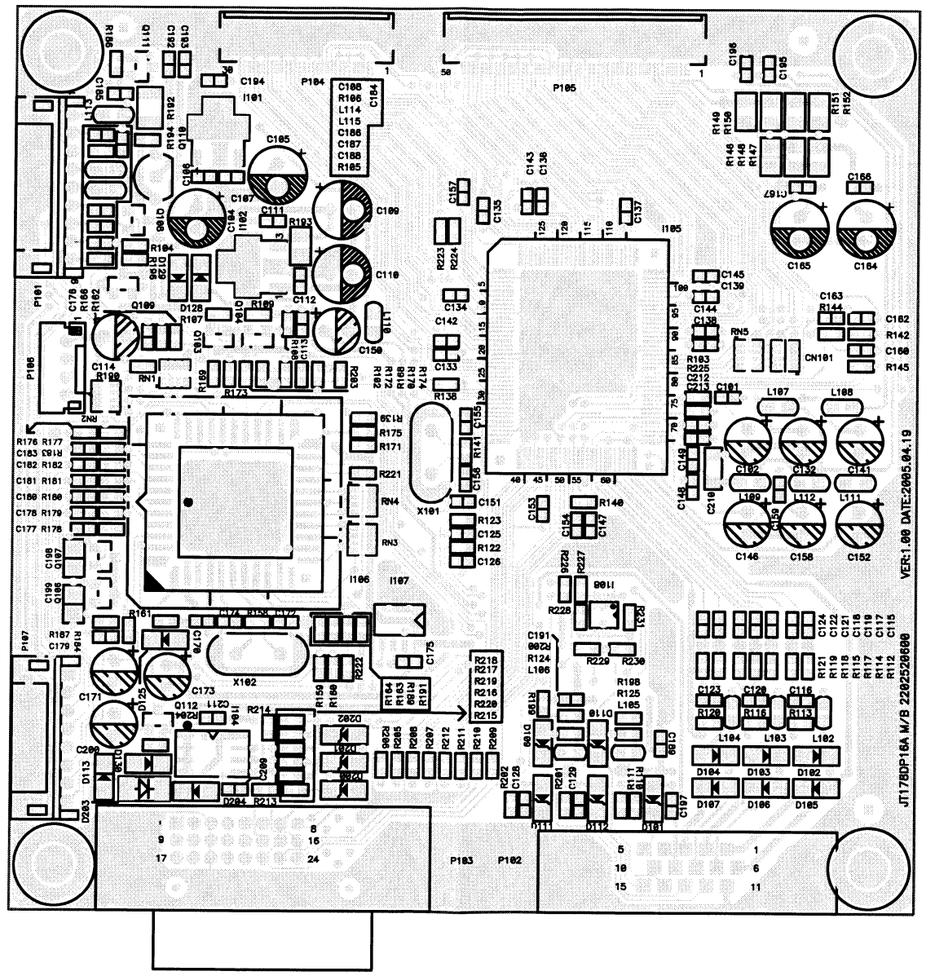
The TDA7496L is a stereo 2W+2W class AB
power amplifier assembled in the @ Powerdip
14+3+3 package, specially designed for high
quality sound, TV and Monitor applications.
Features of the TDA7496L include linear volume
control, Stand-by and mute functions
Ipeak Output Peak Current (internally limited) 0.7 0.9 A
Vin Input Signal 2.8 Vrms
GV Closed Loop Gain Vol Ctrl > 4.5V 28.5 30 31.5 dB
GvLine Monitor Out Gain Vol Ctrl > 4.5V; Zload > 30KΩ -1.5 0 1.5 dB
AMin VOL Attenuation at Minimum Volume Vol Ctrl < 0.5V 80 dB
BW 0.6 MHz
ABSOLUTE MAXIMUM RATINGS
Symbol Parameter Value Unit
VS DC Supply Voltage 26 V
VIN Maximum Input Voltage 8 Vpp
Ptot Total Power Dissipation (Tcase = 60°C) 6 W
Tamb Ambient Operating Temperature 0 to 70 °C
Tstg, Tj Storage and Junction Temperature -40 to 150 °C
V6 Volume CTRL DC voltage 7 V
0 4 8 12 Area(cm2)

8. WIRING DIAGRAM

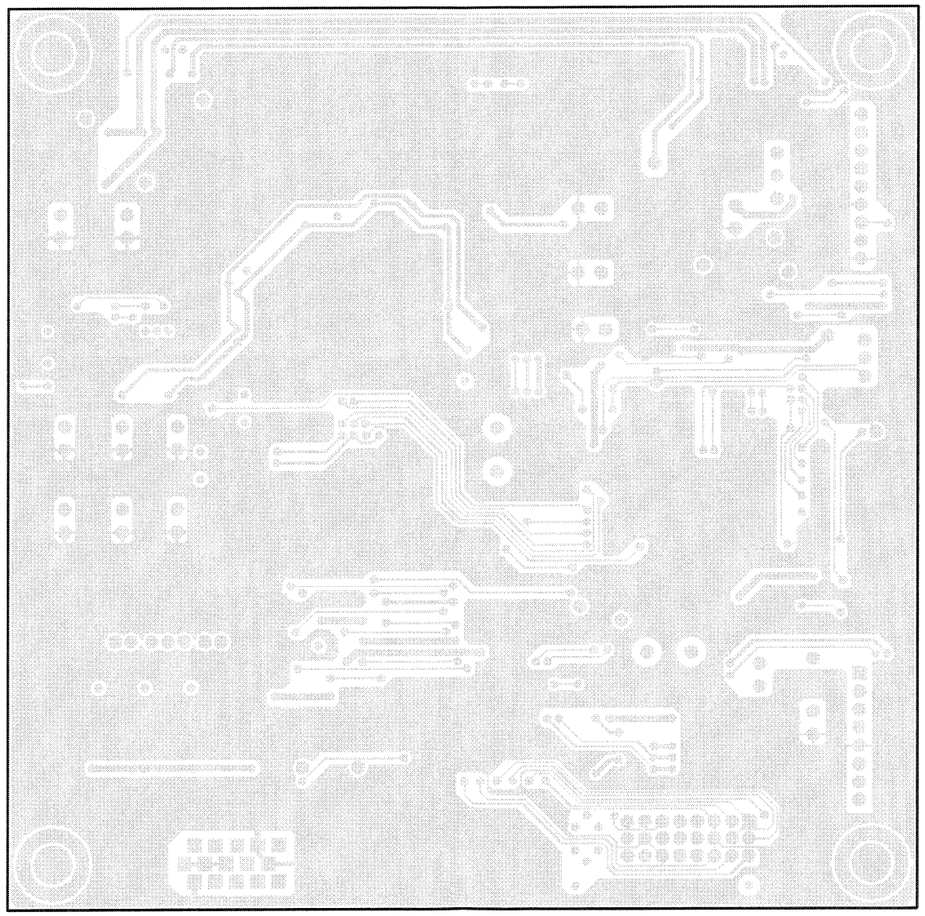


9. PCB LAYOUT

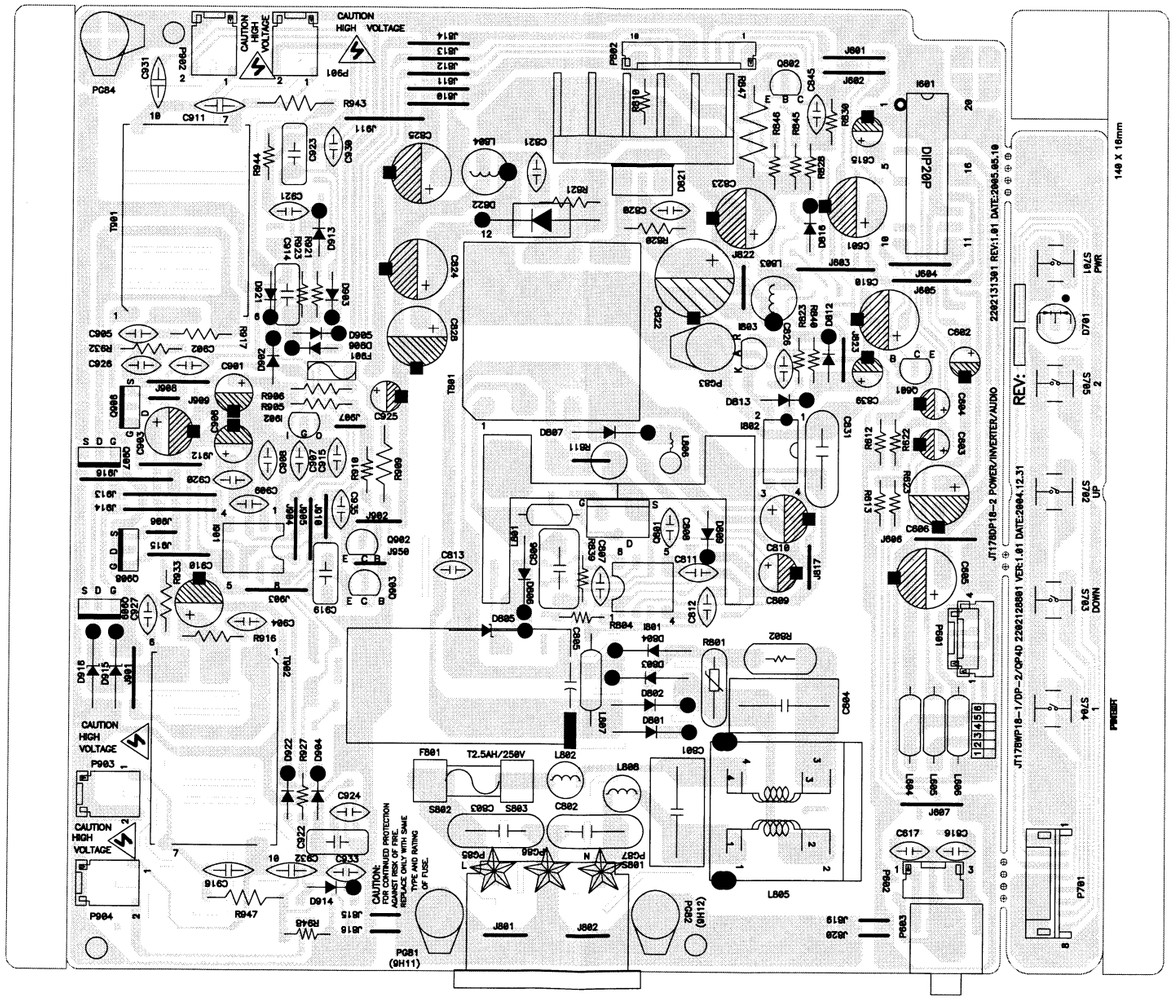
9.1. MAIN PCB TOP VIEW



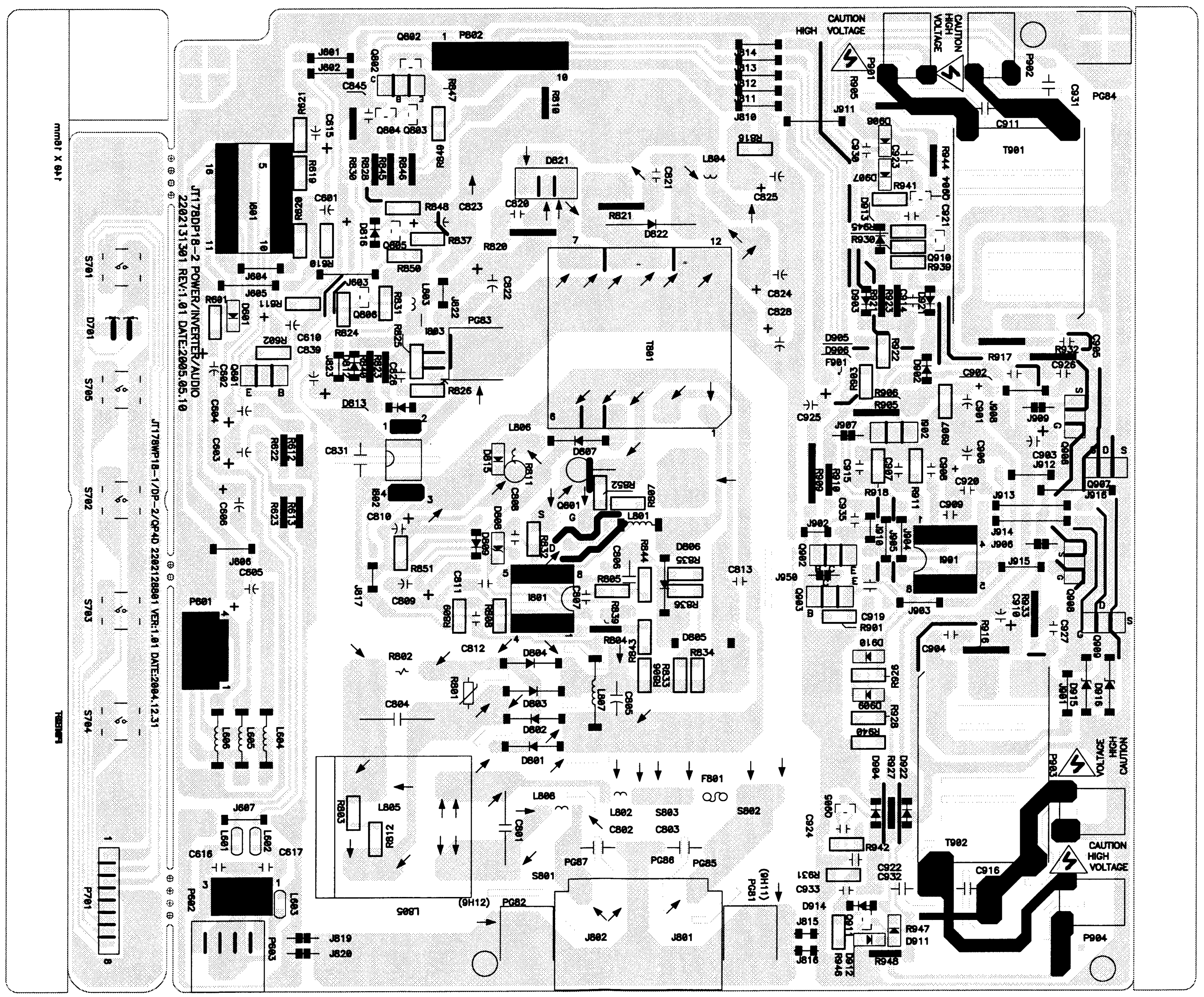
9.2. MAIN PCB BOTTOM VIEW



9.3. KEYPAD & POWER PCB TOP VIEW

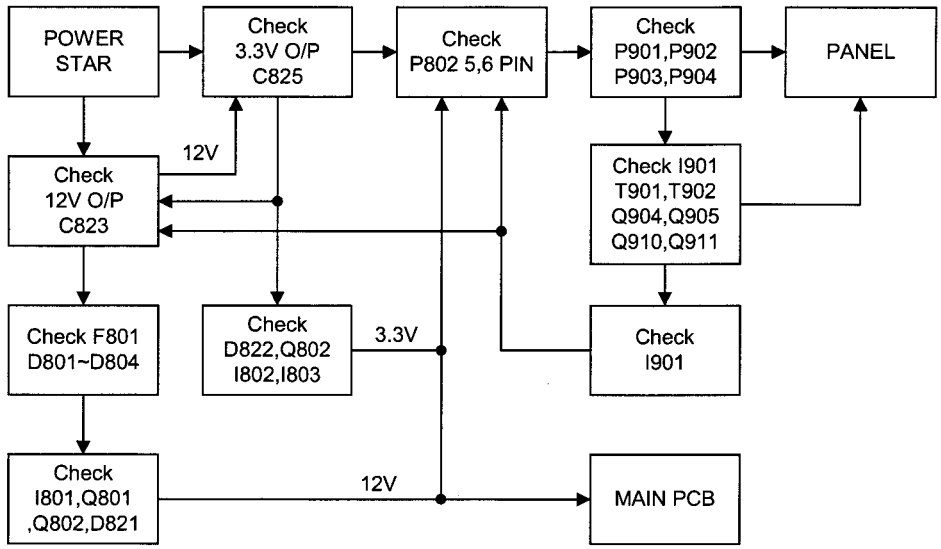


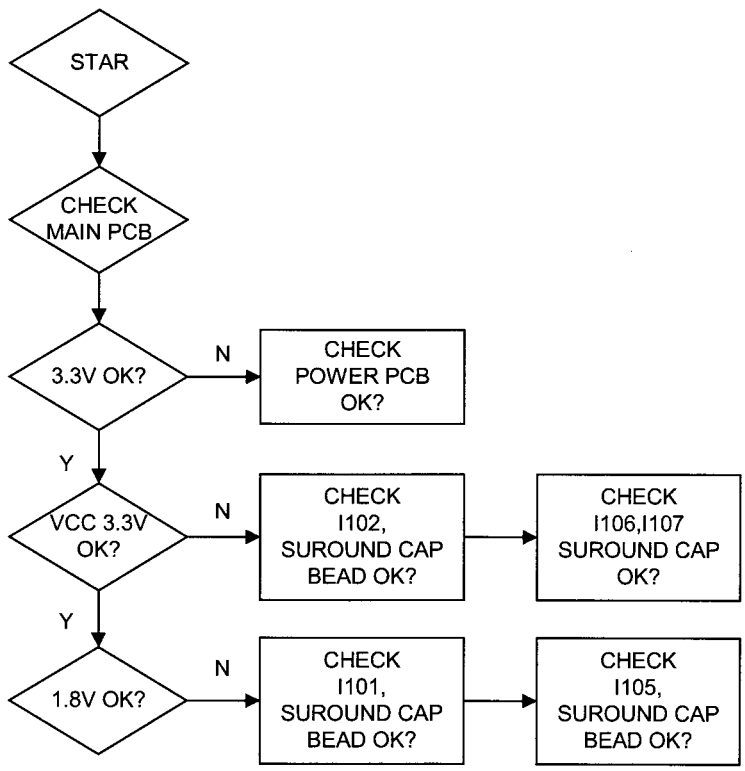
9.4. KEYPAD & POWER PCB BOTTOM VIEW



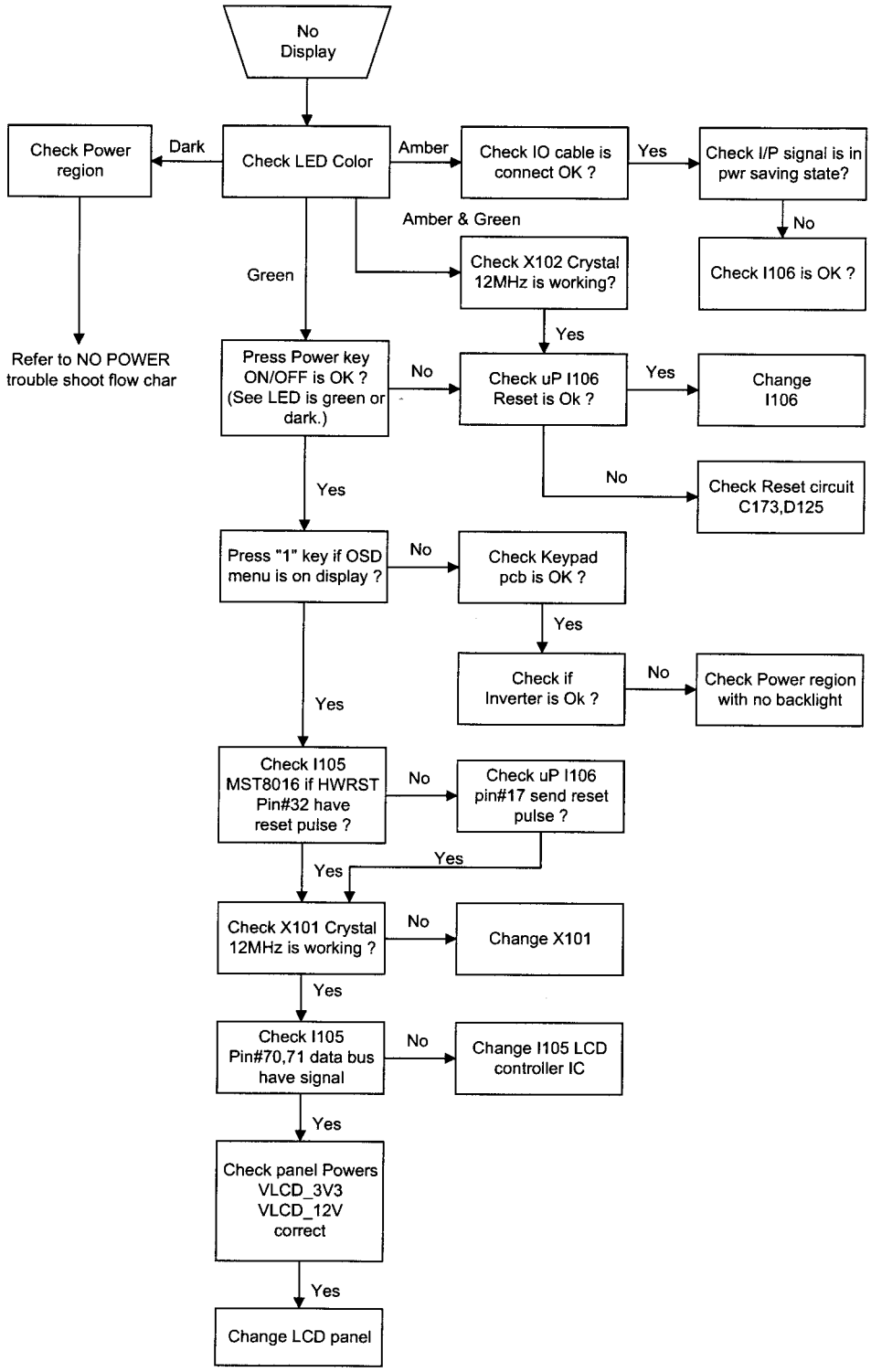
10. TROUBLE SHOOTING FLOW CHART

10.1. NO POWER

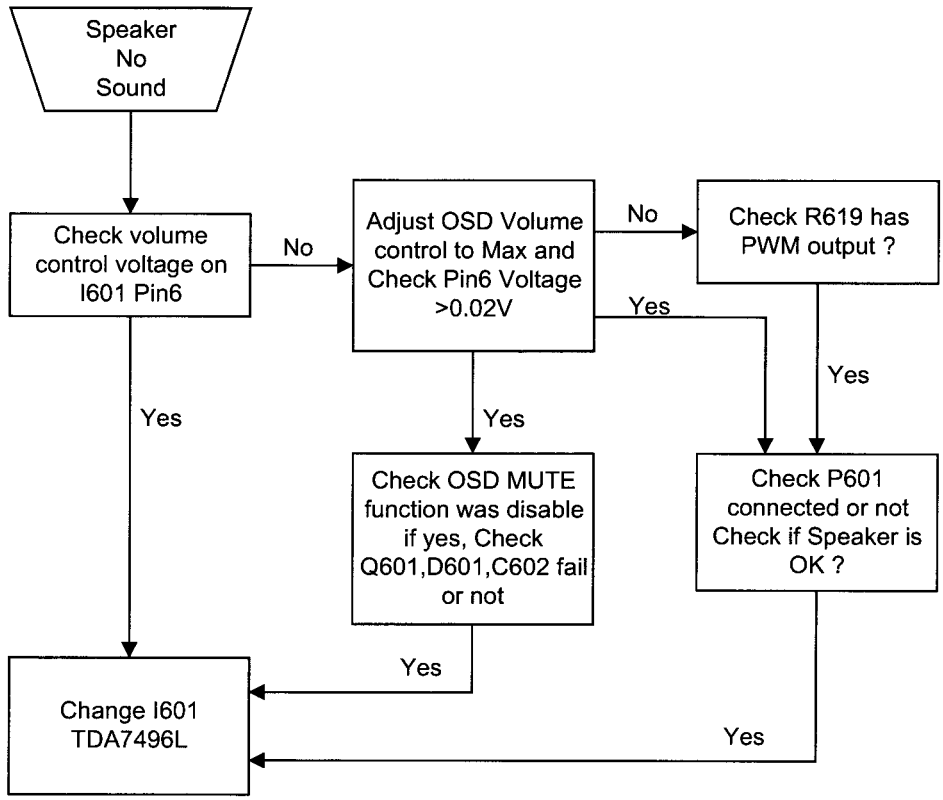




10.2. NO DISPLAY



10.3. NO SOUND


Speaker
No
Sound
Check volume control voltage on I601 Pin6
No
Adjust OSD Volume control to Max and Check Pin6 Voltage >0.02V
No
Check R619 has PWM output ?
Yes
Yes
Yes
Yes
Check OSD MUTE function was disable if yes, Check Q601,D601,C602 fail or not
Check P601 connected or not Check if Speaker is OK ?
Yes
Change I601 TDA7496L
Yes

11. ADJUSTMENT

11.1. ADJUSTMENT CONDITIONS AND PRECAUTIONS

1. Approximately 30 minutes should be allowed for warm up before proceeding.
2. Adjustments should be undertaken only on those necessary elements since most of them have been carefully preset at the factory.
3. ESD protection is needed before adjustment.

11.2. MAIN ADJUSTMENTS

NO.	FUNCTION	DESIGNATION
1.	WHITE BALANCE	FUNCTION KEY
2.	GEOMETRY	FUNCTION KEY

11.3. ALIGNMENT PROCEDURES

Adjustment Conditions and Precautions:

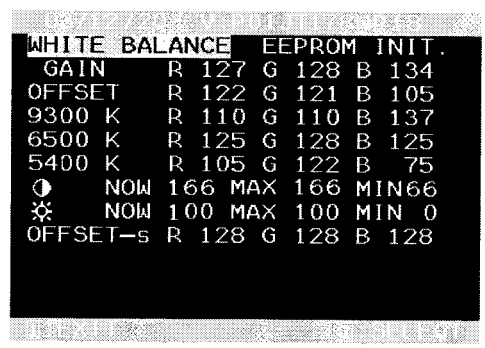
(A). Power supply voltage:
AC 110/120V±10% 60 Hz±5%, AC 220/240V±10% 50 Hz±5%.

(B). Warm up time:
The display must be power ON for at least 30 minutes at full white pattern before starting alignments.
This is especially critical in color temperature and white balance adjustments.

(C). Signals: reference the front detail specifications and timing table.
Video : reference the front detail specifications.

1. Adjustment of White Balance:

A. TIMING: 1280x1024 64KHz/60Hz.
B. PATTERN: 5 Blocks.
C. LCD MONITOR set to 1280x1024 80K/75Hz BURN IN and warm up over 30 minutes.
D. CA110 color analizer at the center of screen and along a perpendicular to the screen at 20cm from the display.
E. Power turn off, Press "▲" and "2 " and turn on power at the same time after power LED ison, release "▼" and 2 " key, Then pr 1 " " key go to factory mode. (Fig.1)



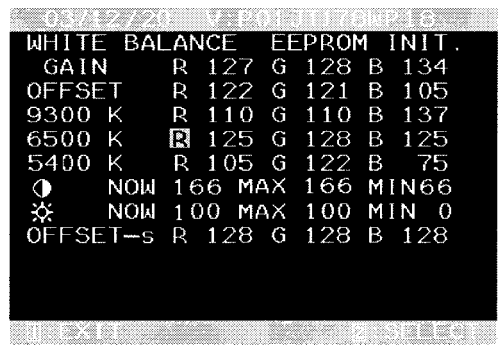
(Fig.1)

F. Adjust Color Temperature:

(1) EEPROM INIT (5 BLOCKS):
Press "▼" key move cursor to EEPROM INIT, Press "[2]" key then monitor will INIT ADC value.

(2) Press "▲" key move cursor to "White Balance", Press "[2]" key do white balance adjustment.

(3) Press "▼" key move cursor to "Color Temerature Adjust", Press "[2]" key, Then OSD will display Fig.2



(Fig.2)

(4) 9300K verify: move cursor to 9300K Press "[2]" key.
Press "▼","▲" key adjust R.G.B value
x=0.283 ±0.03
y=0.297 ±0.03
Press "[1]" key return to Fig.2

(5) 6500K verify: Repeat (4) press "▼","▲" move cursor to 6500K press "[2]" key
x=0.313 ±0.03
y=0.329 ±0.03
Y≧250 cd/m^2

(6) Press "[1]" key go back to Fig.2, Then press "[1]" key return to Fig.1, Power key OFF/ON quit factory mode.

G. Color Temperature & Luminance Verify:
BRIGHTNESS MAX, CONTRAST MAX
9300K: x=0.283 ±0.03 y=0.297 ±0.03
6500K: x=0.313 ±0.03 y=0.329 ±0.03 Y≧250 cd/m^2

2. Geometry:

(a). Set cross-hatch pattern and preset timing as timing table listed.

(b). Change to each mode in turn and wait for the monitor finish auto-alignment and save process before change to next mode.

(c). Until all of modes are agjusted, exit OSD menu and press PWR OFF to exit factory mode.

12. ELECTRICAL PARTS LIST

When you place a parts order, be sure to indicate the following data on the order:

- Location No.
- Parts No.
- Description

MAIN P.C.BOARD

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION			REMARK
C101		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C102		2336322613	CAP,MINI ELE 105'C	EC	22u/16V	4*7	P=2.5
C104		2336347613	CAP,MINI ELE 105'C	EC	47u/16V	5*7	P=2.5
C105		2336347613	CAP,MINI ELE 105'C	EC	47u/16V	5*7	P=2.5
C106		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C107		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C108		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C109		2336347613	CAP,MINI ELE 105'C	EC	47u/16V	5*7	P=2.5
C110		2336347613	CAP,MINI ELE 105'C	EC	47u/16V	5*7	P=2.5
C111		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C112		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C113		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C114		2336322613	CAP,MINI ELE 105'C	EC	22u/16V	4*7	P=2.5
C115	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C115	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C117	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C117	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C118	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C118	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C121	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C121	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C122	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C122	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C124	RA	2346147396	CAP,CHIP 125'C	CS	0603/X7R/50V	0.047u	K
C124	RB	2346247396	CAP,CHIP 125'C	CS	0603/X7R/25V	0.047u	K
C125		2341147096	CAP,CHIP 125'C	CS	0603/COG/50V	47p	J
C126		2341147096	CAP,CHIP 125'C	CS	0603/COG/50V	47p	J
C128		2341147096	CAP,CHIP 125'C	CS	0603/COG/50V	47p	J
C129		2341147096	CAP,CHIP 125'C	CS	0603/COG/50V	47p	J
C132		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5
C133		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C134		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C135		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C136		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C137		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C138		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C139		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C141		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5
C142		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C143		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C144		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C145		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C146		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5
C147		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C148		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C149		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C150		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5
C151		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C152		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5
C153		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C154		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C155		2341122096	CAP,CHIP 125'C	CS	0603/COG/50V	22p	J
C156		2341122096	CAP,CHIP 125'C	CS	0603/COG/50V	22p	J
C157		2346410496	CAP,CHIP 85'C	CS	0603/Y5V/50V	0.1u	Z
C158		2336610613	CAP,MINI ELE 105'C	EC	10u/50V	5*7	P=2.5

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
C159		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C164		2336347613	CAP,MINI ELE 105'C	EC 47u/16V 5*7	P=2.5
C165		2336310713	CAP,MINI ELE 105'C	EC 100u/16V 6.3*7	P=2.5
C166		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C167		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C170		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C172		2341122096	CAP,CHIP 125'C	CS 0603/COG/50V 22p	J
C173		2336622513	CAP,MINI ELE 105'C	EC 2.2u/50V 4*7	P=2.5
C174		2341122096	CAP,CHIP 125'C	CS 0603/COG/50V 22p	J
C175		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C184		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C185		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C186		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C187		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C188		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C189		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C191		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C197		2349901096	CAP,CHIP SPEC	AC 0603470A 47P±10%INP	AQ
C209		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
C211		2346410496	CAP,CHIP 85'C	CS 0603/Y5V/50V 0.1u	Z
D101		2253400096	RES,CHIP 1/4	RC 1206 1/4 W 0ohm	J
D102	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D102	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D103	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D103	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D104	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D104	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D105	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D105	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D106	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D106	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D107	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D107	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D109	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D109	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D109	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D110	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D110	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D110	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D111	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D111	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D111	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D112	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D112	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D112	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D113	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D113	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D125	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D125	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D128	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D128	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D129	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D129	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D200	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D200	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D200	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D201	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D201	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D201	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D202	RA	2364503996	DIODE,ZENER SMD	BZV55-C5V6 5% SOD-80C	PHILIPS
D202	RB	2364505616	DIODE,ZENER SMD	TZMC5V6 SOD-80 5.2-6.0V	VISHAY
D202	RC	2364500396	DIODE,ZENER SMD	RLZ5.6B 5.45-5.73V LL-34	ROHM
D203		2364201496	DIODE,RECT(SMD)	EC10QS04-TE12L	IR
D204	RA	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D204	RB	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
I101		2365815096	IC,LINEAR(SMD)	AME8805MEGT SOT-223	AME
I104		2365101096	IC,MEMORY	24LC21AT/SN SOIC8	MICROCHIP
I105		2365425036	DIGITAL IC (SCALER)	TSU57AK PQFP-128	Mstar
I106		2365929996	IC,DIGITAL SMD	MTV312MV64-AJ PLCC44	MYSON
I107	RA	2365915896	IC,DIGITAL SMD	24LC16B/SN SO-8	MICROCHIP
I107	RB	2365100996	IC,MEMORY	AT24C16AN-10SI-2.7 SO-8	ATMEL
I108		2365335196	LINEAR IC	TS5A23157 VSSOP-10TI	
L102		2253200096	RES,CHIP 1/10W	RC 0603 1/10W 0 ohm J	
L103		2253200096	RES,CHIP 1/10W	RC 0603 1/10W 0 ohm J	
L104		2253200096	RES,CHIP 1/10W	RC 0603 1/10W 0 ohm J	
L105		2379312196	BEAD,HI-IMPEDANCE	Z= 120 ohm(100MHZ~) 0603 200mA	
L106		2379312196	BEAD,HI-IMPEDANCE	Z= 120 ohm(100MHZ~) 0603 200mA	
L107		2379820196	BEAD,HI-IMPEDANCE	Z= 200 ohm(100MHZ~) 0805 200mA	
L108		2379520196	BEAT,HI-CURRENT	Z= 200 ohm 0805 I=2.0A	
L109		2379820196	BEAD,HI-IMPEDANCE	Z= 200 ohm(100MHZ~) 0805 200mA	
L110		2379820196	BEAD,HI-IMPEDANCE	Z= 200 ohm(100MHZ~) 0805 200mA	
L111		2379820196	BEAD,HI-IMPEDANCE	Z= 200 ohm(100MHZ~) 0805 200mA	
L112		2379820196	BEAD,HI-IMPEDANCE	Z= 200 ohm(100MHZ~) 0805 200mA	
L113		2379520196	BEAT,HI-CURRENT	Z= 200 ohm 0805 I=2.0A	
L114		2379520196	BEAT,HI-CURRENT	Z= 200 ohm 0805 I=2.0A	
L115		2379520196	BEAT,HI-CURRENT	Z= 200 ohm 0805 I=2.0A	
P101		2404371008	CONNECTOR	JST PH 9P TOP P=2.0 OR EQUAL	
P102		2407430900	SOCKET (D-SUB)	DHSB-15FTF7 BLUE(661C)	LEOCO
P103	RA	2404381104	CONNECTOR	QH11121-FP0 DVI-D	FOXCONN
P103	RB	2404381101	CONNECTOR	74320-4004 DVI-D	MOLEX
P103	RC	2404381107	CONNECTOR	CU072SAHDG DVI-D	CVILUX
P103	RD	2404381106	CONNECTOR	2DS-0341-001 DVI-D	S.E
P104	RA	2407630230	SOCKET,SMD	6240-30-OR5P 0.5*30P	KYOCERA
P104	RB	2407630330	SOCKET,SMD	2206BL11230RLP 0.5*30P	FRANCON
P105	RA	2407630250	SOCKET,SMD	6240-50-OR5P 0.5*50P	KYOCERA
P105	RB	2407630350	SOCKET,SMD	2206BL11250RLP 0.5*50P	FRANCON
P107		2404371007	CONNECTOR	JST PH 8P TOP P=2.0 OR EQUAL	
Q103	RA	2360100696	XISTOR,PNP R SMD	PMBS3906 SOT-23	PHILIPS
Q103	RB	2360100796	XISTOR,PNP R SMD	MMBT3906 SOT-23	DIODES
Q103	RC	2360100596	XISTOR,PNP R SMD	MMBT3906 SOT-23	FAIRCHILD
Q103	RD	2360100396	XISTOR,PNP R SMD	MMBT3906-7 SOT-23	VISHAY
Q103	RE	2360100896	XISTOR,PNP R SMD	MMBT3906LT1 SOT-23	ON
Q104	RA	2360100696	XISTOR,PNP R SMD	PMBS3906 SOT-23	PHILIPS
Q104	RB	2360100796	XISTOR,PNP R SMD	MMBT3906 SOT-23	DIODES
Q104	RC	2360100596	XISTOR,PNP R SMD	MMBT3906 SOT-23	FAIRCHILD
Q104	RD	2360100396	XISTOR,PNP R SMD	MMBT3906-7 SOT-23	VISHAY
Q104	RE	2360100896	XISTOR,PNP R SMD	MMBT3906LT1 SOT-23	ON
Q106	RA	2360301696	XISTOR,NPN R SMD	PMBS3904 SOT-23	PHILIPS
Q106	RB	2360301296	XISTOR,NPN R SMD	MMBT3904 SOT-23	DIODES
Q106	RC	2360300896	XISTOR,NPN R SMD	MMBT3904 SOT-23	FAIRCHILD
Q106	RD	2360302196	XISTOR,NPN R SMD	MMBT3904 SOT-23	ON
Q107	RA	2360301696	XISTOR,NPN R SMD	PMBS3904 SOT-23	PHILIPS
Q107	RB	2360301296	XISTOR,NPN R SMD	MMBT3904 SOT-23	DIODES
Q107	RC	2360300896	XISTOR,NPN R SMD	MMBT3904 SOT-23	FAIRCHILD
Q107	RD	2360302196	XISTOR,NPN R SMD	MMBT3904 SOT-23	ON
Q108	RA	2360501396	FET,P-CH SMD	AP2305N SOT-23	APEC
Q108	RB	2360501296	FET,P-CH SMD (EOL)	AO3411 SOT-23	AOS
Q109	RA	2360301696	XISTOR,NPN R SMD	PMBS3904 SOT-23	PHILIPS
Q109	RB	2360301296	XISTOR,NPN R SMD	MMBT3904 SOT-23	DIODES
Q109	RC	2360300896	XISTOR,NPN R SMD	MMBT3904 SOT-23	FAIRCHILD
Q109	RD	2360302196	XISTOR,NPN R SMD	MMBT3904 SOT-23	ON
Q110		2361111191	XISTOR,PNP R	2SA1020(Y) TO-92	TOSHIBA
Q111	RA	2360301696	XISTOR,NPN R SMD	PMBS3904 SOT-23	PHILIPS
Q111	RB	2360301296	XISTOR,NPN R SMD	MMBT3904 SOT-23	DIODES
Q111	RC	2360300896	XISTOR,NPN R SMD	MMBT3904 SOT-23	FAIRCHILD
Q111	RD	2360302196	XISTOR,NPN R SMD	MMBT3904 SOT-23	ON
R102		2253218296	RES,CHIP 1/10W	RC 0603 1/10W 1.8Kohm J	
R103		2253210296	RES,CHIP 1/10W	RC 0603 1/10W 1Kohm J	
R104		2253210396	RES,CHIP 1/10W	RC 0603 1/10W 10Kohm J	
R106		2253210196	RES,CHIP 1/10W	RC 0603 1/10W 100 ohm J	

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION			REMARK
R107		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R108		2253227296	RES,CHIP 1/10W	RC	0603 1/10W	2.7Kohm J	
R109		2253210296	RES,CHIP 1/10W	RC	0603 1/10W	1Kohm J	
R110		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R111		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R112		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R113		2251275096	RES,CHIP 1/10	RC	0603 1/10W	75 ohm F	
R114		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R115		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R116		2251275096	RES,CHIP 1/10	RC	0603 1/10W	75 ohm F	
R118		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R119		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R120		2251275096	RES,CHIP 1/10	RC	0603 1/10W	75 ohm F	
R121		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R122		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R123		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R124		2253222296	RES,CHIP 1/10W	RC	0603 1/10W	2.2Kohm J	
R125		2253222296	RES,CHIP 1/10W	RC	0603 1/10W	2.2Kohm J	
R140		2251239006	RES,CHIP 1/10	RC	0603 1/10W	390 ohm F	
R141		2253210596	RES,CHIP 1/10W	RC	0603 1/10W	1Mohm J	
R142		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R144		2253233096	RES,CHIP 1/10W	RC	0603 1/10W	33 ohm J	
R145		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R146		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R147		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R150		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R152		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R158		2253210596	RES,CHIP 1/10W	RC	0603 1/10W	1Mohm J	
R159		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R160		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R161		2253222396	RES,CHIP 1/10W	RC	0603 1/10W	22Kohm J	
R162		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R163		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R164		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R168		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R169		2251290916	RES,CHIP 1/10	RC	0603 1/10W	9.09Kohm F	
R170		2253222296	RES,CHIP 1/10W	RC	0603 1/10W	2.2Kohm J	
R171		2253222296	RES,CHIP 1/10W	RC	0603 1/10W	2.2Kohm J	
R172		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R173		2251233216	RES,CHIP 1/10	RC	0603 1/10W	3.32Kohm F	
R174		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R175		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R176		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R177		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R178		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R179		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R180		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R181		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R182		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R183		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R184		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R187		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R189		2253210296	RES,CHIP 1/10W	RC	0603 1/10W	1Kohm J	
R190		2253210296	RES,CHIP 1/10W	RC	0603 1/10W	1Kohm J	
R191		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R192		2253510296	RES,CHIP 1/3	RC	1210 1/3 W	1Kohm J	
R193		2253300096	RES,CHIP 1/8	RC	0805 1/8 W	0ohm J	
R194		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R196		2253222196	RES,CHIP 1/10W	RC	0603 1/10W	220 ohm J	
R198		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R199		2253200096	RES,CHIP 1/10W	RC	0603 1/10W	0 ohm J	
R201		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R202		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R205		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R206		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION			REMARK
R207		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R208		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R209		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R210		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R211		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R212		2253210096	RES,CHIP 1/10W	RC	0603 1/10W	10 ohm J	
R213		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R214		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R215		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R216		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R217		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
R218		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R219		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R220		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R221		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R222		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R224		2253247296	RES,CHIP 1/10W	RC	0603 1/10W	4.7Kohm J	
R225		2253256196	RES,CHIP 1/10W	RC	0603 1/10W	560 ohm J	
R226		2253210396	RES,CHIP 1/10W	RC	0603 1/10W	10Kohm J	
R227		2253210196	RES,CHIP 1/10W	RC	0603 1/10W	100 ohm J	
RN1		2259210308	RES,CHIP NETWORKS	8P4R 1/16W		10Kohm J	
RN2		2259210308	RES,CHIP NETWORKS	8P4R 1/16W		10Kohm J	
RN3		2259210308	RES,CHIP NETWORKS	8P4R 1/16W		10Kohm J	
RN4		2259210308	RES,CHIP NETWORKS	8P4R 1/16W		10Kohm J	
RN5		2259233008	RES,CHIP NETWORKS	8P4R 1/16W		33 ohm J	
U101		2202520600	PCB MULTILAYER	178DP16A M/B FR4*2 100*100 1.0			
X101		2369102901	XTAL,OSC	14.31818MHZ/49US 0.1mW/30pF			
X102		2369103601	XTAL,OSC	12.000MHZ/49US 0.1mW/30pF			

POWER P.C.BOARD

C601		2333347791	CAP,ELE 105'C	EC	470u/16V	10*12.5 P=5.0	
C602		2333622691	CAP,ELE 105'C	EC	22u/50V	5*11 P=5.0	
C603		2333610591	CAP,ELE 105'C	EC	1u/50V5*11	P=5.0	
C604		2333610591	CAP,ELE 105'C	EC	1u/50V5*11	P=5.0	
C605		2333347791	CAP,ELE 105'C	EC	470u/16V	10*12.5 P=5.0	
C606		2333347791	CAP,ELE 105'C	EC	470u/16V	10*12.5 P=5.0	
C610		2333322791	CAP,ELE 105'C	EC	220u/16V	8*11 P=5.0	
C615		2333610691	CAP,ELE 105'C	EC	10u/50V	5*11 P=5.0	
C616		2281110291	CAP,CER	CC	1000p/50V	P=5.0 K	
C617		2281110291	CAP,CER	CC	1000p/50V	P=5.0 K	
C801		2300947481P	X CAP MINI	X2	0.47u/275V	P=15.0 K	
C802		2287247212	CAP,CER	Y2	4700p/250VY5V	P=10.0 M	
C803		2287247212	CAP,CER	Y2	4700p/250VY5V	P=10.0 M	
C805		2357510708	EC Hi-Ripple 105C 400V	EC	100u/400V	18*32 P=7.5	
C806		2285110212	CAP CER	CC	1000P/1KVY5P	P=7.5 K	
C807		2281110491	CAP,CER	CC	0.1u/50V (Y5P)	P=5.0 K	
C808		2281118191	CAP,CER	CC	180p/50V (Y5P)	P=5.0 K	
C809		2333610691	CAP,ELE 105'C	EC	10u/50V	5*11 P=5.0	
C810		2333633691	CAP,ELE 105'C	EC	33u/50V	6.3*11 P=5.0	
C811		2281110291	CAP,CER	CC	1000p/50V	P=5.0 K	
C812		2281110391	CAP,CER	CC	0.01u/50V (Y5P)	P=5.0 K	
C813		2283610391	CAP,CER	CC	0.01u/500VZ5U	P=5.0 M	
C820		2285110291	CAP,CER	CC	1000P/1KVY5P	P=5.0 K	
C821		2285110291	CAP,CER	CC	1000P/1KVY5P	P=5.0 K	
C822		2335315811P	CAP,Ele Low Esr 105'C	EC	1500u/16V	13*16 P=5.0	
C823		2335447791	CAP,Ele Low Esr 105'C	EC	470u/25V	10*13 P=5.0	
C824		2335210811	CAP,Ele Low Esr 105'C	EC	1000u/10V	8*16 P=3.5	
C825		2335347713	CAP,Ele Low Esr 105'C	EC	470u/16V	8*12 P=5.0	
C826		2302047291	CAP,MTL	MEF	4700pF/50V	P=5.0 J	
C831		2287210312	CAP,CER	Y2	0.01uF/250V	P=10.0 M	
C839		2333610591	CAP,ELE 105'C	EC	1u/50V5*11	P=5.0	
C845		2281110491	CAP,CER	CC	0.1u/50V (Y5P)	P=5.0 K	
C901		2333622691	CAP,ELE 105'C	EC	22u/50V	5*11 P=5.0	
C902		2281410491	CAP,CER	CC	0.1u/50VY5V	P=5.0 Z	

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
C903		2335347713	CAP,Ele Low Esr 105'C	EC 470u/16V 8*12 P=5.0	
C904		2283110291	CAP,CER	CC 1000pF/500VY5P P=5.0 K	
C905		2283110291	CAP,CER	CC 1000pF/500VY5P P=5.0 K	
C906		2333622691	CAP,ELE 105'C	EC 22u/50V 5*11 P=5.0	
C907		2302047391	CAP,MTL	MEF 0.047uF/50V P=5.0 J	
C908		2272147091	CAP,CER	TC 47p/50VCH P=5.0 J	
C909		2272133191	CAP,CER	TC 330p/50VCH P=5.0 J	
C910		2335347713	CAP,Ele Low Esr 105'C	EC 470u/16V 8*12 P=5.0	
C911		2275422001	CAP CER	TC 22P/3KVSL P=7.5 J	
C914		2302068391	CAP,MTL	MEF 0.068u/50V P=5.0 J	
C915		2281110391	CAP,CER	CC 0.01u/50V (Y5P) P=5.0 K	
C916		2275422001	CAP CER	TC 22P/3KVSL P=7.5 J	
C919		2302068391	CAP,MTL	MEF 0.068u/50V P=5.0 J	
C920		2281110491	CAP,CER	CC 0.1u/50V (Y5P) P=5.0 K	
C921		2281110491	CAP,CER	CC 0.1u/50V (Y5P) P=5.0 K	
C922		2302068291	CAP,MTL	MEF 0.0068u/50V P=5.0 J	
C923		2302068291	CAP,MTL	MEF 0.0068u/50V P=5.0 J	
C924		2281110491	CAP,CER	CC 0.1u/50V (Y5P) P=5.0 K	
C926		2283110291	CAP,CER	CC 1000pF/500VY5P P=5.0 K	
C927		2283110291	CAP,CER	CC 1000pF/500VY5P P=5.0 K	
C930		2281133191	CAP,CER	CC 330pF/50V P=5.0 K	
C931		2275450901	CAP,CER	TC 5P/3KVSL P=7.5 J	
C932		2275450901	CAP,CER	TC 5P/3KVSL P=7.5 J	
C933		2281133191	CAP,CER	CC 330pF/50V P=5.0 K	
D601	RA	2364200896	DIODE,RECT(SMD)	BAS32L SOD-80	PHILIPS
D601	RB	2364600496	DIODE,SWITCH SMD	MM4148 SOD-80	GRANDE
D701		2363703891	LED	LED 3φ GRN/YEL	
D801	RA	2363227295	DIODE,RECT	2A07 DO-15 1000V/2A	TSC
D801	RB	2363221195	DIODE,RECT	PG208 DO-15	PEC
D801	RC	2363224295	DIODE,RECT	20KDA60	NI
D801	RD	2363233795	DIODE,RECT	PS2010 2A/1000V DO-15	PEC
D802	RA	2363227295	DIODE,RECT	2A07 DO-15 1000V/2A	TSC
D802	RB	2363221195	DIODE,RECT	PG208 DO-15	PEC
D802	RC	2363224295	DIODE,RECT	20KDA60	NI
D802	RD	2363233795	DIODE,RECT	PS2010 2A/1000V DO-15	PEC
D803	RA	2363227295	DIODE,RECT	2A07 DO-15 1000V/2A	TSC
D803	RB	2363221195	DIODE,RECT	PG208 DO-15	PEC
D803	RC	2363224295	DIODE,RECT	20KDA60	NI
D803	RD	2363233795	DIODE,RECT	PS2010 2A/1000V DO-15	PEC
D804	RA	2363227295	DIODE,RECT	2A07 DO-15 1000V/2A	TSC
D804	RB	2363221195	DIODE,RECT	PG208 DO-15	PEC
D804	RC	2363224295	DIODE,RECT	20KDA60	NI
D804	RD	2363233795	DIODE,RECT	PS2010 2A/1000V DO-15	PEC
D806	RA	2363215495	DIODE,RECT (EOL)	BYV26C SOD57	PHILIPS
D806	RB	2363231995	DIODE,RECT	UF4007	PEC
D806	RC	2363223195	DIODE,RECT	UF4007 DO-204AL	GS
D807	RA	2363230795	DIODE,RECT	1H5G	WILLAS
D807	RB	2363601395	DIODE,SWITCH	1U4G 400V/1A R-1	PEC
D808		2364530016P	DIODE,ZENER SMD	MMSZ5256B 30V/0.5W	PEC
D809		2363213695	DIODE,RECT	11EQS04	NI
D812		2363600195	DIODE,SWITCH	1N4148 DO-35	
D813		2363600195	DIODE,SWITCH	1N4148 DO-35	
D821	RA	2363302800	DIODE,SCHOTTKY	SRF10120C ITO-220	MOSPEC
D821	RB	2363234100	DIODE,RECT	ER1002FCT ITO-220AB	PEC
D822	RA	2363234012	DIODE,RECT	SR306 DO-201AD	MOSPEC
D822	RB	2363231212	DIODE,RECT	SB360(F9) 3A/60V DO-201AD	PEC
D902		2363600195	DIODE,SWITCH	1N4148 DO-35	
D903		2363600195	DIODE,SWITCH	1N4148 DO-35	
D904		2363600195	DIODE,SWITCH	1N4148 DO-35	
D905		2363600195	DIODE,SWITCH	1N4148 DO-35	
D906		2363213695	DIODE,RECT	11EQS04	NI
D907	RA	2364600396	Diode,Switch Smd (EOL)	LL4148 SOD-80	DIODES
D907	RB	2363600696	DIODE,SWITCH	RLS4148-T11 SOD-80	ROHM
D907	RC	2364601396	DIODE,SWITCH SMD	1N4148W-7 SOD123	DIODES
D908	RA	2364600396	Diode,Switch Smd (EOL)	LL4148 SOD-80	DIODES

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
D908	RB	2363600696	DIODE,SWITCH	RLS4148-T11 SOD-80 ROHM	
D908	RC	2364601396	DIODE,SWITCH SMD	1N4148W-7 SOD123 DIODES	
D909	RA	2364600396	Diode,Switch Smd (EOL)	LL4148 SOD-80 DIODES	
D909	RB	2363600696	DIODE,SWITCH	RLS4148-T11 SOD-80 ROHM	
D909	RC	2364601396	DIODE,SWITCH SMD	1N4148W-7 SOD123 DIODES	
D910		2364300896	Diode,Schottky(SMD)	EP05Q04-TE8L 40V/0.4A IR	
D911	RA	2364600396	Diode,Switch Smd (EOL)	LL4148 SOD-80 DIODES	
D911	RB	2363600696	DIODE,SWITCH	RLS4148-T11 SOD-80 ROHM	
D911	RC	2364601396	DIODE,SWITCH SMD	1N4148W-7 SOD123 DIODES	
D912	RA	2364600396	Diode,Switch Smd (EOL)	LL4148 SOD-80 DIODES	
D912	RB	2363600696	DIODE,SWITCH	RLS4148-T11 SOD-80 ROHM	
D912	RC	2364601396	DIODE,SWITCH SMD	1N4148W-7 SOD123 DIODES	
D913		2363600195	DIODE,SWITCH	1N4148 DO-35	
D914		2363600195	DIODE,SWITCH	1N4148 DO-35	
D921		2363600195	DIODE,SWITCH	1N4148 DO-35	
D922		2363600195	DIODE,SWITCH	1N4148 DO-35	
F801	RA	2213125207	FUSE	21502.5(2.5A) LITTEL	
F801	RB	2213125211	FUSE	FUSE 2.5A/250V SG501302.5 PICO	
F901		2428106125	JUMPER	0.6φ*12.5mm	
I601		2365329700	IC,LINEAR	TDA7496L DIP-20 ST	
I801		2365330900	IC,LINEAR	LD7552IN DIP-8 LEADTREND	
I802	RA	2362401800	PHOTO COUPLR	TLP621(D4-GR-LF2) TOSHIBA	
I802	RB	2362401600	PHOTO COUPLR (EOL)	TLP721F(D4-GR) TOSHIBA	
I803	RA	2365328191	IC,LINEAR	AP431VA TO-92 ATC	
I803	RB	2365327691	IC,LINEAR	CM431BCN TO-92 CHAMPION	
I803	RC	2365321991	IC,LINEAR	KA431AZTA TO-92 FAIRCHILD	
I901		2365335030	LINEAR IC	OZ9932D PDIP-8 O2-Micro	
I902	RA	2365330291	IC,LINEAR	KA78L05AZ TO-92 FAIRCHILD	
I902	RB	2365330491	IC,LINEAR	HC78L05 TO-92 HC-SEMI	
I902	RC	2365330591	IC,LINEAR	L78L05ACZ-A/P TO-92 ST	
L601		2379822106	BEAD,HI-IMPEDANCE	Z= 220ohm(200MHZ~) 0805 200mA	
L602		2379822106	BEAD,HI-IMPEDANCE	Z= 220ohm(200MHZ~) 0805 200mA	
L603		2379822106	BEAD,HI-IMPEDANCE	Z= 220ohm(200MHZ~) 0805 200mA	
L604		2379101495	FERRITE CORE	3.5X9X0.8	
L605		2379101495	FERRITE CORE	3.5X9X0.8	
L606		2379101495	FERRITE CORE	3.5X9X0.8	
L801		2379101595	FERRITE CORE	3.5X4.5X0.8	
L802		2379103500	FERRITE CORE	0.5φ/3Ts 6*10	
L803		2371150903	COIL,CHOKE	5uH 7.8*10 2UEW 0.65mm/12.5Ts	
L804		2428106075	JUMPER	0.6φ＊*7.5mm	
L805		2371145301	COIL,CHOKE	ET-20 45mH 2UEW 0.26mm/55+55Ts	
L806		2379103901	FERRITE CORE	B15R6H-6X10 2T	
L807		2428106150	JUMPER	0.6φ*15.0mm	1
L808		2379103500	FERRITE CORE	0.5φ/3Ts 6*10	
P601		2404300003	CONNECTOR	JST XH 4P TOP P=2.5 OR EQUAL	
P603		2405106000	EARPHONE JACK	2SJ-P520-A04 (577C) SINGATRON	
P701		2427408252	WIRE HARNESS	8P H/B 1061#26 L=250mm P=2.0	
P802		2427410001A	WIRE HARNESS	9/10P H/B 1061#24 L=160 P=2.0	
P901		2404380302	CONNECTOR	87210-0236 P=3.5 ACE OR EQUAL	
P902		2404380302	CONNECTOR	87210-0236 P=3.5 ACE OR EQUAL	
P903		2404380302	CONNECTOR	87210-0236 P=3.5 ACE OR EQUAL	
P904		2404380302	CONNECTOR	87210-0236 P=3.5 ACE OR EQUAL	
PG81		2105251400	SPRING PLATE	SPTE T=0.4MM (GROUND PLATE)	
PG82		2105251400	SPRING PLATE	SPTE T=0.4MM (GROUND PLATE)	
PG83		2105251400	SPRING PLATE	SPTE T=0.4MM (GROUND PLATE)	
PG85		2097400301	EYELET	BSS3-1/2H T=0.25 SN 3μm	
PG86		2097400301	EYELET	BSS3-1/2H T=0.25 SN 3μm	
PG87		2097400301	EYELET	BSS3-1/2H T=0.25 SN 3μm	
Q601	RA	2361316191	XISTOR,NPN R	2PC945P TO-92 PHILIPS	
Q601	RB	2361302591	XISTOR,NPN R	2SC945-P TO-92 NEC	
Q801	RA	2361611600	FET,N-CH	AP03N70F-A TO-220FM APEC	
Q801	RB	2361611800	FET,N-CH	AP03N70F-H TO-220FM APEC	
Q802	RA	2360302296	XISTOR,NPN R SMD	MMBT2907A SOT-23 DIODES	
Q802	RB	2360301096	XISTOR,NPN R SMD	KST2907A SOT-23 FAIRCHILD	
Q802	RC	2360302396P	XISTOR,NPN R SMD	HMBT2907A SOT23 HI-SINCERITY	

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
Q802	RD	2360302496P	XISTOR,NPN R SMD	MMBT2907ALT1G SOT-23	ON
Q803	RA	2360301296	XISTOR,NPN R SMD	MMBT3904 SOT-23	DIODES
Q803	RB	2360300396	XISTOR,NPN R SMD	MMBT3904LT1 SOT-23	MOTOROLA
Q803	RC	2360300296	XISTOR,NPN R SMD	HMBT3904 SOT-23	HI-SIN
Q803	RD	2360300896	XISTOR,NPN R SMD	MMBT3904 SOT-23	FAIRCHILD
Q803	RE	2360300596	XISTOR,NPN R SMD	MMBT3904-7 SOT-23	VISHAY
Q804	RA	2360100796	XISTOR,PNP R SMD	MMBT3906 SOT-23	DIODES
Q804	RB	2360100696	XISTOR,PNP R SMD	PMBS3906 SOT-23	PHILIPS
Q804	RC	2360100596	XISTOR,PNP R SMD	MMBT3906 SOT-23	FAIRCHILD
Q902	RA	2361313691	XISTOR,NPN R	KSC945CGTA TO-92	FAIRCHILD
Q902	RB	2361316191	XISTOR,NPN R	2PC945P TO-92	PHILIPS
Q902	RC	2361302591	XISTOR,NPN R	2SC945-P TO-92	NEC
Q904	RA	2360608496	FET,N-CH(SMD)	2N7002K SOT-23	VISHAY
Q904	RB	2360609096	FET,N-CH(SMD)	2N7002K SOT-23	PHILIPS
Q904	RC	2360609196	FET,N-CH(SMD)	2N7002L SOT-23	ON
Q904	RD	2360609496P	FET,N-CH(SMD)	2N7002G SOT-23	Pyramis
Q905	RA	2360608496	FET,N-CH(SMD)	2N7002K SOT-23	VISHAY
Q905	RB	2360609096	FET,N-CH(SMD)	2N7002K SOT-23	PHILIPS
Q905	RC	2360609196	FET,N-CH(SMD)	2N7002L SOT-23	ON
Q905	RD	2360609496P	FET,N-CH(SMD)	2N7002G SOT-23	Pyramis
Q906	RA	2361611500	FET,N-CH	AP9977GJ(T-TYPE) TO-251	APEC
Q906	RB	2361611100	FET,N-CH	AOU402 T0-251	AOS
Q907	RA	2361611500	FET,N-CH	AP9977GJ(T-TYPE) TO-251	APEC
Q907	RB	2361611100	FET,N-CH	AOU402 T0-251	AOS
Q908	RA	2361611500	FET,N-CH	AP9977GJ(T-TYPE) TO-251	APEC
Q908	RB	2361611100	FET,N-CH	AOU402 T0-251	AOS
Q909	RA	2361611500	FET,N-CH	AP9977GJ(T-TYPE) TO-251	APEC
Q909	RB	2361611100	FET,N-CH	AOU402 T0-251	AOS
Q910	RA	2360608496	FET,N-CH(SMD)	2N7002K SOT-23	VISHAY
Q910	RB	2360609096	FET,N-CH(SMD)	2N7002K SOT-23	PHILIPS
Q910	RC	2360609196	FET,N-CH(SMD)	2N7002L SOT-23	ON
Q910	RD	2360609496P	FET,N-CH(SMD)	2N7002G SOT-23	Pyramis
Q911	RA	2360608496	FET,N-CH(SMD)	2N7002K SOT-23	VISHAY
Q911	RB	2360609096	FET,N-CH(SMD)	2N7002K SOT-23	PHILIPS
Q911	RC	2360609196	FET,N-CH(SMD)	2N7002L SOT-23	ON
Q911	RD	2360609496P	FET,N-CH(SMD)	2N7002G SOT-23	Pyramis
R601		2253410496	RES,CHIP 1/4	RC 1206 1/4W 100Kohm J	
R602		2253439296	RES,CHIP 1/4	RC 1206 1/4W 3.9Kohm J	
R610		2253410396	RES,CHIP 1/4	RC 1206 1/4W 10Kohm J	
R611		2253410396	RES,CHIP 1/4	RC 1206 1/4W 10Kohm J	
R612		2233410395	RES,CBN 1/4 S	RD 1/4WS 10Kohm J	
R613		2233410395	RES,CBN 1/4 S	RD 1/4WS 10Kohm J	
R619		2253400096	RES,CHIP 1/4	RC 1206 1/4W 0ohm J	
R620		2253447296	RES,CHIP 1/4	RC 1206 1/4W 4.7Kohm J	
R621		2253422296	RES,CHIP 1/4	RC 1206 1/4W 2.2Kohm J	
R622		2233410195	RES,CBN 1/4 S	RD 1/4WS 100ohm J	
R623		2233410195	RES,CBN 1/4 S	RD 1/4WS 100ohm J	
R802		2229201212	THERMISTOR,PTH	SCK-103 10+-20%3A THINKING	
R803		2253410596	RES,CHIP 1/4	RC 1/4W 1.00 M	
R804		2239351136	RES,PRE 1/2 S	RN 1/2WS 511Kohm P=7.0	
R805		2253491496	RES CHIP 1/4W	RC 1206 1/4W 910Kohm J	
R806		2251451136	RES,CHIP 1/4	RC 1206 1/4W 511Kohm F	
R807		2253439096	RES CHIP 1/4W	RC 1206 1/4W 39 ohm J	
R808		2251413336	RES,CHIP 1/4	RC 1206 1/4W 133Kohm F	
R809		2253447096	RES,CHIP 1/4	RC 1206 1/4W 47ohm J	
R811		2241262816	RES,WIR 2	RS 2WS 0.62ohm J	
R812		2253410596	RES,CHIP 1/4	RC 1/4W 1.00 M	
R816		2251468106	RES,CHIP 1/4	RC 1206 1/4W 681 ohm F	
R820		2233622095	RES,CBN 1/2WS	RD 1/2WS 22ohm J	
R821		2233610095	RES,CBN 1/2WS	RD 1/2WS 10ohm J	
R823		2233410295	RES,CBN 1/4 S	RD 1/4WS 1Kohm J	
R824		2251482516	RES,CHIP 1/4	RC 1206 1/4W 8.25Kohm F	
R825		2251413026	RES,CHIP 1/4W	RC 1206 1/4W 13Kohm F	
R826		2253456296	RES,CHIP 1/4	RC 1206 1/4W 5.6Kohm J	
R828		2239236515	RES,PRE 1/4 S	RN 1/4WS 3.65Kohm F	

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
R830		2239211815	RES,PRE 1/4 S	RN 1/4WS 1.18Kohm F	
R831		2251411036	RES,CHIP 1/4	RC 1206 1/4 W 110Kohm F	
R832		2253410296	RES,CHIP 1/4	RC 1206 1/4 W 1Kohm J	
R833		2253410496	RES,CHIP 1/4	RC 1206 1/4 W 100Kohm J	
R834		2253410496	RES,CHIP 1/4	RC 1206 1/4 W 100Kohm J	
R835		2253410496	RES,CHIP 1/4	RC 1206 1/4 W 100Kohm J	
R836		2253410496	RES,CHIP 1/4	RC 1206 1/4 W 100Kohm J	
R839		2239391136	RES,PRE 1/2 S	RN 1/2WS 911Kohm P=7.0	
R840		2233430295	RES,CBN 1/4 S	RD 1/4WS 3.0Kohm J	
R843		2251451136	RES,CHIP 1/4	RC 1206 1/4 W 511Kohm F	
R844		2253491496	RES CHIP 1/4W	RC 1206 1/4W 910Kohm J	
R845		2233410295	RES,CBN 1/4 S	RD 1/4WS 1Kohm J	
R846		2233420295	RES,CBN 1/4 S	RD 1/4WS 2.0Kohm J	
R847		2235468995	RES,MTL 1	RS 1WS 6.8 ohm J	
R852		2253410396	RES,CHIP 1/4	RC 1206 1/4 W 10Kohm J	
R901		2253410396	RES,CHIP 1/4	RC 1206 1/4 W 10Kohm J	
R905		2239222025	RES,PRE 1/4 S	RN 1/4WS 22Kohm F	
R906		2239210025	RES,PRE 1/4 S	RN 1/4WS 10Kohm F	
R907		2251418026	RES,CHIP 1/4	RC 1206 1/4 W 18Kohm F	
R909		2232410195	RES,CBN 1/4	RD 1/4W 00ohm J	
R911		2253451596	RES,CHIP 1/4	RC 1206 1/4 W 5.1Mohm J	
R916		2232410095	RES,CBN 1/4	RD 1/4W 10 ohm J	
R917		2232410095	RES,CBN 1/4	RD 1/4W 10 ohm J	
R918		2253410596	RES,CHIP 1/4	RC 1/4W 1.00 M	
R921		2239268105	RES,PRE 1/4 S	RN 1/4WS 681ohm F	
R922		2253451296	RES,CHIP 1/4	RC 1206 1/4W 5.1Kohm J	
R923		2239239205	RES,PRE 1/4 S	RN 1/4WS 392ohm F	
R926		2253451296	RES,CHIP 1/4	RC 1206 1/4W 5.1Kohm J	
R927		2239268105	RES,PRE 1/4 S	RN 1/4WS 681ohm F	
R928		2251439206	RES,CHIP 1/4	RC 1206 1/4 W 392 ohm F	
R930		2253410596	RES,CHIP 1/4	RC 1/4W 1.00 M	
R931		2253410596	RES,CHIP 1/4	RC 1/4W 1.00 M	
R932		2232410095	RES,CBN 1/4	RD 1/4W 10 ohm J	
R933		2232410095	RES,CBN 1/4	RD 1/4W 10 ohm J	
R939		2251482596	RES,CHIP 1/4	RC 1206 1/4 W 82.5ohm F	
R940		2251482596	RES,CHIP 1/4	RC 1206 1/4 W 82.5ohm F	
R941		2251427406	RES,CHIP 1/4	RC 1206 1/4 W 274ohm F	
R942		2251427406	RES,CHIP 1/4	RC 1206 1/4 W 274ohm F	
R943		2242315595	High Voltage Resistor	RD 1/2W 1.5Mohm J	
R944		2239220015	RES,PRE 1/4 S	RN 1/4WS 2.0Kohm F	
R945		2251427406	RES,CHIP 1/4	RC 1206 1/4 W 274ohm F	
R946		2251427406	RES,CHIP 1/4	RC 1206 1/4 W 274ohm F	
R947		2242315595	High Voltage Resistor	RD 1/2W 1.5Mohm J	
R948		2239220015	RES,PRE 1/4 S	RN 1/4WS 2.0Kohm F	
S701		2403702513	SWITCH,TACT	TSTA-2 4.3mm 160g HUA-JIE	
S702		2403702513	SWITCH,TACT	TSTA-2 4.3mm 160g HUA-JIE	
S703		2403702513	SWITCH,TACT	TSTA-2 4.3mm 160g HUA-JIE	
S704		2403702513	SWITCH,TACT	TSTA-2 4.3mm 160g HUA-JIE	
S705		2403702513	SWITCH,TACT	TSTA-2 4.3mm 160g HUA-JIE	
S801	RA	2407413100	SOCKET (AC INLET)	0711-2-P10-9 INALWAYS	
S801	RB	2407413300	SOCKET (AC INLET)	SC-8R-F15A9 SUPERCOM	
S802	RA	2407200991	HOLDER,FUSE	CQ-05T (5mm DIA FUSE) CONQUER	
S802	RB	2407200791	HOLDER,FUSE	FC-05C	
S803	RA	2407200991	HOLDER,FUSE	CQ-05T (5mm DIA FUSE) CONQUER	
S803	RB	2407200791	HOLDER,FUSE	FC-05C	
T801		2374228009	XFORMER,POWR	ER-28 800uH 2UEW 0.4mm/26Ts	
T901	RA	2374301204	XFORMER INVERTER	TLT-1167 TAILON	
T901	RB	2374301200	XFORMER INVERTER	TK.2016M.101 DARFON	
T902	RA	2374301204	XFORMER INVERTER	TLT-1167 TAILON	
T902	RB	2374301200	XFORMER INVERTER	TK.2016M.101 DARFON	
U701		2202128801	PC BOARD	JT178WP K/B FR1 140*16 V1.01	
U801		2202131301	PC BOARD	T178DP-2 P/B FR1 160*155 V1.01	

OTHERS

LOC NO.	SOURCE	PART NO.	DESCRIPTION	SPECIFICATION	REMARK
P951		2427130047	POWER CORD	GERMAN WALL 1.83M BLACK	
P961		2427501187	I/O CABLE	D15/D15 20276(3+6) 1.83M BLACK	
P962		2427700016	CABLE	EAR 3.5(BLK) 1.83M BLK	
P980		2420309302P	FFC CABLE	FFC 30P*0.5*95mm	
P981		2420309502P	FFC CABLE	FFC 50P*0.5*L95mm	
P988		2427404004	WIRE HARNESS	4/2+2P H/A 1061#24 L=250 P=2.5	
V901		2212007201	LCD PANEL	CLAA170EA08Q Ver1.1 8ms CPT	
W601		2391301081	SPEAKER ASS'Y	1W 8 ohm 52*19.5*14 (R)	
W602		2391301082	SPEAKER ASS'Y	1W 8 ohm 52*19.5*14 (L)	